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# M anagement

■ OBJECTIVES

■ DOLLARS

■ EMPLOYEES

*Preliminary Report*

*September 1961*

*U.S. Department of Agriculture*

*Details of  
Concepts of a System*



PREPAR

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DEPARTMENT OF AGRICULTURE  
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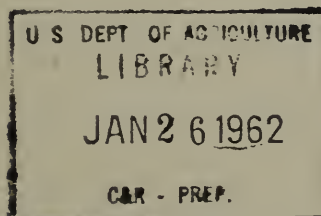
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**MANAGEMENT**  
**of**  
**OBJECTIVES**  
↓  
**with**  
**DOLLARS**  
↓  
**through**  
**EMPLOYEES**





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## IMPLEMENTATION

Introduction

Designing the System

Conversion

Operating the System (MDSC)

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## INTRODUCTION

Each year the Department spends more than 20 million dollars on personnel, payrolling, accounting, and budget operations. The operations are handled by many different offices, using many different procedures. Could a better system--a system for the whole Department be designed, using automatic data processing techniques?

Thirty-eight Department employees worked on a project to develop a better system. The one they designed will handle personnel, payroll, accounting, and budget matters in an integrated operation. It will use both business and mathematical programs.

The concepts of the system and the details--schematics and narratives for the computers, results of work group studies, and calculations of the cost of the system--are presented in this report.

### How the Project was Organized

On July 26, 1961, Joseph M. Robertson, the Administrative Assistant Secretary, discussed the proposed project with Carl Barnes, John Cooper, and Charles Weaver. They considered the Department's progress in automatic data processing, the costs of administrative support, and the services common to all agencies and offices in the Department.

The project leaders explored the problem and met with representatives of the agencies. They developed ideas of what the system could do, how it could be applied, and how it could help management.

They stated concepts of the basic system, identified work areas, outlined work group assignments, and set up a schedule for the project.

On July 31, Administrative Assistant Secretary Robertson reviewed the project plan and authorized its start.

Who could best carry out the project? Department employees--those who knew what the system would have to do, what the regulations are, and what management needs.

Thirty-eight employees--from 13 agencies--were asked to work on the project. Many talents were applied. Some were system designers, some applied mathematicians, and others specialists on personnel, payrolling, accounting, and budget. The project plan was presented to them, and work groups were organized. Each group leader planned and organized to accomplish his group's assignment.

On August 1 their work began. For one month they studied, considered, created. On September 1 their reports were completed.

### Accomplishing the Project

Six work groups were assembled to consider the present system, design a new system, determine the feasibility of changing, and present the results of the project.

As the work groups progressed, the group leaders visited other organizations -- both in government and industry. The visits validated some ideas, voided others, and provided new ones. Operating experiences of advanced systems were appraised.

The project leaders also met with officials of the Bureau of the Budget, General Accounting Office, Treasury Department, and the Civil Service Commission to review concepts of the system. Reaction was favorable, although approval was neither requested nor given. The meetings were an exchange of information.

Each work group had specific assignments; the work of each depended on segments completed by others. To facilitate management of the project, a schedule was prepared using the critical-path technique. This enabled the project leaders to move the total project forward as rapidly as possible.

Each agency and office of the Department named a responsible official as the contact point for consultation with and assistance to the work groups. These officials provided guidance and arranged for information, people, and other assistance to be available to the work groups. This contributed materially to the speed with which the project progressed.

The System Design Work Group was to design the system so as to effect the maximum efficiency using automatic data processing (ADP) equipment. This group considered the business-type applications.

Initially each subject matter group received assistance from this group. An experienced ADP system designer became familiar with the terminology of the personnel, payroll, accounting, and budget specialists.

As input and output requirements were developed by the subject matter groups the System Design Work Group began to work out computer program configurations.

As the details of the ADP system were developed, the group determined the ADP equipment -- in the Department -- most suitable for the system. Then, a specific system design was developed.

The group prepared schematics of computer programs and explanatory narratives. These were presented to the subject matter work groups -- on a preliminary and then a final basis. The system was responsive to the needs of the new system for the application areas of personnel, payroll, accounting, and budget. Also, it was compatible with the concepts of the mathematical models being developed by the Operations Research Group, for the business and scientific programs were to function as integral parts of the total system.

Costs for developing the system -- problem definition, programming, testing -- were furnished to the Cost Work Group. Costs were also furnished for operations -- card punching, computer processing, and maintenance of computer programs.

The Personnel Work Group was to develop the Personnel Application Area -- how documents were to be submitted and what documents, statements, and reports were to be required from the system. The aim was to handle personnel transactions in the most effective and efficient manner.

The group used a questionnaire to gather data on personnel costs and volumes. Based on data collected and experience in personnel work the effect of the system on current personnel costs was projected and furnished to the Cost Group.

The Personnel Application Area of the System Design -- using ADP equipment -- was approved as being compatible with the personnel operations designed by this work group.

The Payroll and Accounting, Budget Work Group was to develop the Payroll and Budget Application Areas, accounting documentation for accomplished transactions was to be provided in each



area. The flow of documents from timekeepers into the computer and the subsequent flow of checks, bonds, time sheets, statements and reports back to the work areas were developed.

To furnish the Cost Group with the cost of the payroll, accounting, and budget operations under this system, the group had to develop the organization, location, and functioning of the payroll office as it would function under the system. This office -- described as the Management Data Service Center (MDSC) -- is presented as a separate item in this section of the report. The total estimated cost of the payroll and accounting and budget application areas under this system was also developed and furnished to the Cost Work Group.

A list of input documents, statements, and reports required from the ADP equipment was furnished to the System Design Work Group. Volumes of data were furnished to that group and the Cost Work Group and were used in computing the cost of this system.

The Payroll and Accounting and Budget application areas of the System Design -- using ADP equipment -- were approved as being compatible with the payroll and accounting and budget operations designed by this work group.

The Program Analysis Work Group was to develop means of measuring the effectiveness of money spent in the Department. Each agency supplied information on what could be used to measure its effectiveness -- what would show the relative value of agency accomplishments and expenditures.

Indices were not developed. Concepts of capturing data -- from which a research effort might start -- were developed. These were made available to the Operations Research Work Group and to the personnel assigned to the budget area from the Payroll and Accounting, Budget Work Group.

The findings of this work group are included in the Budget Application Area of this report.

The Operations Research Work Group was to develop concepts of two mathematical models -- one for personnel, the other for effectiveness.

The group leader worked with the two subject matter work groups to get ideas of management tools that might be of value. Then he and a member of the Systems Design group worked with the applied mathematicians in the ASCS Commodity Office in Dallas. The project leaders assisted this work group by telephone.

Two mathematical model concepts were developed:

Management of Human Resources  
Gaming Analysis for Management Effectiveness

These are presented in the Personnel and the Budget Application Areas.

The group developed schematics of computer programs and explanatory narratives. They also projected requirements for computer time and furnished them to the Cost Group.

The research, problem definition, program development, and maintenance and operation costs were estimated and furnished to the Cost Group.

The Cost Work Group was to develop the cost of this system in comparison to the cost of the present system -- the change in costs that would result from installation of this system. Accepted accounting principles and practices on comparative costing were followed.

A questionnaire, designed to gather information on present costs, was developed with the assistance of the Payroll and Accounting, Budget Work Group. Major deviations and questionable entries were resolved with agency representatives.

Hourly charges for the computers, which had been negotiated with ASCS by the project leaders, were applied to volumes and times supplied by the System Design and subject matter groups.

The findings of the Cost Work Group determined the economic feasibility of the system.

### Presenting the Results

The Systems Design group made weekly presentations of its accomplishments in applying ADP equipment to each application area. Differences in system concept were developed and resolved.

The Secretary was kept informed of the approach and the progress.

The report on the project is presented in two parts:

Concepts of a System  
Details of Concepts of a System

The smaller part, Concepts of a System, presents the statement of the problem, a synopsis of the system, and recommendations of the project leaders. It may be of value to others who have similar problems.

The Details of Concepts of a System is for use within the Department. It should be of material value in implementing the system.



## DESIGNING THE SYSTEM

The Department now has two large-scale computers on which time is available -- a 705 III, which is owned, and a 7070 which is leased from an insurance company. Both computers are operated by the Agricultural Stabilization and Conservation Service (ASCS).

A comparison of these computers and the next larger computer to which the programs could be converted -- 705 III to 7080 and 7070 to 7074 -- follows:

### On computer-bound applications:

The 7070 and the 705 III are about the same in internal performance.

In general, the 7074 has about six times the internal processing power of the 7070 and the 705 III.

The 7080 would fall in about the same category as the 7074 on an over-all basis.

On sort applications, the 7074 would give the best performance.

On tape-bound applications, excluding sorts, all systems give about the same performance.

Because the 7070 would cost the MDSC over 50% more than the 705 III, it was determined that the 705 III should be used for the volume of the transactions. Also, payment for the computer will then go to one of the agencies of the Department.

The Department's experience in using the 705 III and the 7070 (with floating point) is that the 7070 gives better results on mathematical programs. Also, an experienced staff of applied mathematicians is at the 7070 location. Therefore, it is advantageous to use the 7070 for the mathematical programs.

The proposed use of the two computers for application areas within the same system is based on past experiences of the Department in using tapes prepared on the 705 III as input to the 7070.

Considering the costs and capabilities of the computers, the Systems Design Work Group was advised to consider only the 705 III in the design of the system; the Operations Research Work Group was advised to consider the 7070. To minimize cost of installing the system, each group was restricted further to input media which the Department now is using at the two Data Processing Centers -- punched cards. If other equipment for input media preparation were installed later, the use of it would further increase the cost benefits resulting from this system.

### Result of System Design Study

The System Design Work Group was to analyze the problem and develop a design for the proposed Automatic Data Processing System. Specifically the group has accomplished:

1. Design individual program (run) configurations.
2. Estimate computer time per 1,000 records maintained, and estimate computer time for each 1,000 records processed.
3. Estimate the cost of computer operation including equipment and personnel.

4. Prepare statements describing what each computer run will accomplish.
5. Describe input and output preparation.
6. Prepare the schematics of the system.
7. Describe the process of conversion, including design of any special runs required, and estimate the dollar cost of such runs.
8. Prepare run narratives to accompany the schematics.

The group examined the projected system for the Department of Health, Education and Welfare described in a recent report on payroll activities. It also contacted the Civil Service Commission about systems in use elsewhere, particularly in Government. CSC's files contributed to the general knowledge of the requirements of a system and were particularly useful in making contacts with other agencies.

Several operating systems were observed by selected members of this Work Group. These included: Payroll application for the Federal Bureau of Investigation; integrated payroll and fiscal application for the U.S. Geological Survey, Department of the Interior; manpower utilization application for General Electric Corporation, Philadelphia, Pa.; payroll and fiscal application for the City of New York. Experiences of these installations were of material value in the design of this system.

The group contacted the Division of Disbursement of the Treasury Department about requirements in the presentation of payroll and bond purchase tapes. The requirements were found to be flexible enough that the Treasury system could be integrated with this system. The group assigned to implement the installation of this system in the Department should confer closely with the Division of Disbursement on problem formulation and particularly on the design of payroll and bond purchase tapes to be supplied to the Treasury Department.

The runs that have been developed form an integrated approach to the three major areas of work -- payroll and accounting, personnel, and budget -- assigned to the study. The major runs can be implemented a phase at a time or a group at a time.

The format and content of many of the input documents, described in reports of the Personnel, Payroll and Accounting, Budget, and Operations Research Work Groups, should be revised. Many of the present documents are not suitable for key punching. Also, several of them have information that is included on another input document. Such information should be entered only once into this system. The group recommends that the forms be redesigned and revised to make card preparation easy and to prevent duplication of input. Such actions are necessary if full advantage of the integrated system is to be realized.

All data will enter the system in the form of punched cards. At an early stage in the process, the original source data will be converted to magnetic tape for processing. However, punched cards still will be basic to the system.

The input will be about 325,000 cards each pay period. Cards for employees whose reports are for a full 80-hours pay with no leave taken can be gang punched. Also, if required, some of the input cards can be punched in the reporting agency and submitted to the data processing system to be used as input to the system.

If conventional methods of key punching are used, the preparation of time and attendance reports will require 500 man-days of key punching and key verifying for each pay period. This estimate does not include coding and reviewing. Neither does it include supervision and overhead. Preparation of the original data in punched card form represents the major item of cost.

Because of the cost and size of the job of preparing punched cards, mechanical means should be thoroughly explored. The automation of data preparation seems most desirable. The use of optical scanners is being studied extensively by the New Orleans DPC. This study probably will continue while the computer programs are being defined and written. Data required for the system is the same regardless of the method used to prepare punched cards or magnetic tape input. Results of the study of the optical scanner should be considered in relation to this system.

The system as designed is presented in schematics with run narratives. Business-type programs are presented as a part of the application areas of personnel, payroll, budget, and accounting. The mathematical programs are presented as a part of the application areas of personnel and budget. The schematics reflect a numbering system which is explained in Exhibit I.

Included in the system, for both business and mathematical programs, are 18 master files. These, identified by application are:

#### Master Files

<u>Title</u>	<u>Application</u>	<u>Exhibit</u>
1. Payroll	PADA	II
2. Supplemental Payroll	PADA	II
3. Report Summary	ADAM	*
4. Cumulative Retention Data	ADAM	*
5. Position and Job	ADAM	III
6. Retirement	ADAM	IV
7. Budget	FAME	V
8. Personnel	MOHR	VI
9. Personnel History Summary	MOHR	VII
10. Personnel Changes	MOHR	*
11. Job Qualifications and Print Constants	MOHR	*
12. Standards	GAME	*
13. Math Constants and Constraints	GAME	VIII
14. Funds, Programs, Requirements	GAME	IX
15. Funds and Programs	GAME	X
16. History of Programs Completed	GAME	*
17. Accumulated Effectiveness	GAME	*
18. New Conditional Job Descriptions	MOHR	*

\*To be developed when problem definition has been completed.

The contents of master files that have been developed are described in the exhibits.

The application identification are mnemonics for:

PADA	<u>P</u> ayroll <u>A</u> utomation for the <u>D</u> epartment of <u>A</u> griculture
ADAM	<u>A</u> griculture <u>D</u> epartment <u>A</u> utomated <u>M</u> anpower
FAME	<u>F</u> inancial <u>A</u> nalysis of <u>M</u> anagement <u>E</u> ffectiveness
MOHR	<u>M</u> anagement of <u>H</u> uman <u>R</u> esources
GAME	<u>G</u> aming <u>A</u> nalysis for <u>M</u> anagement <u>E</u> ffectiveness

Data entered into the system is "spread" to each application area to which it applies. Data in one application area is used as "working data" in other areas. Data generated in one application



area is distributed to up-date the other areas that are affected. This is a total system -- an integration of the five application areas -- PADA, ADAM, FAME, MOHR, and GAME.

## CONVERSION

Conversion of existing records will implement the total payroll application and parts of the personnel and budget applications.

Special forms will be designed to collect the required data from existing payroll, personnel, retirement, and budget records of the agencies. The conversion forms will contain data similar to that required for the normal process of establishing a position and the process of adding a new accession. In addition to data normally required, the conversion forms must also contain information such as current and previous year leave balances, year-to-date earnings, deductions, and deduction carryover.

The creation of the initial records within the computer system will be in two parts. First, data common to the normal operations will be keypunched and processed to establish the basic record. Second, the additional data necessary to complete the record will be keypunched for entry into the system in the form of corrections.

This method of conversion eliminates the need for defining and programming a separate system specifically for the conversion process. It will also subject the records to the same testing and editing process that will be operative in the fully implemented system.

The process of conversion will consist of several phases. The first will be to prove the ability of the system to perform as required. Before existing records are converted to the system, each payroll and personnel office will submit completed conversion documents on approximately 10 employees. Copies of actual time and attendance reports for these employees, covering three payroll periods, will accompany the conversion documents. This pilot data will be used to perform final volume and compatibility tests of the system. Quarterly and annual reports will be simulated during this period.

The budget data necessary to establish the budget master will be entered only once for each fiscal year. This consists of appropriations or allotments. This data may be prepared as of the beginning of the budget year and used in both the testing and actual production.

During the final testing of the computer system, the second phase of conversion will be in progress. This phase will consist of transferring the responsibility to the new system. A schedule of conversion will be published and distributed to the payroll and personnel offices. The conversion forms will be completed and submitted to the Management Data Service Center as of the close of the specified pay period.

A pilot group of approximately 5,000 employees will be selected for the first conversion. Files will be established and records maintained on this group through three pay periods. During that time problems in the system can be resolved. Then groups of approximately 10,000 employees will be added each pay period until total conversion is accomplished. It will take approximately 6 months to implement the system for the entire Department.

The computer system will create the payroll master file, the position and job master file, and the retirement master file. The retirement master file as initially established will contain only the cumulative fiscal data. The last personnel action will have been recorded manually on the SF-2806, Individual Retirement Record.

The existing payroll and personnel records, for functions being reassigned will be forwarded to the MDSC along with the conversion data. As each group of records is converted, the MDSC will assume responsibility for maintaining them. No attempt will be made to operate parallel systems.



The development of the total personnel and budget applications will require about one year longer than the payroll and the legally required reporting functions of budget and personnel. Provision will be made to prepare the basic records from the existing magnetic tape files. These basic records can then be completed in the normal process of making additions, changes and adjustments to the master files.

OPERATING THE SYSTEM  
MANAGEMENT DATA SERVICE CENTER  
(MDSC)

This will be a departmental Center servicing all employees of the Department who are now paid by checks issued by Treasury disbursing offices. These employees will be serviced as to personnel, payroll, accounting, and budgetary reports and analyses.

Computers

The location of MDSC is recommended to be New Orleans, La. This places MDSC in a central geographic location -- in the same city as a Departmental computer. This computer is to be used for the business type programs -- that receive the volume of input and produce the volume of output. Locating the MDSC in New Orleans minimizes the cost of operations.

The Data Processing Center, DPC, of the Agricultural Stabilization and Conservation Service, ASCS, located in New Orleans, has a Government-owned 705 III Computer, augmented by a 1401 satellite. Also, the DPC has an experienced System, Programming and Operations Staff. This DPC will complete the problem definition, develop and maintain the computer programs, punch and verify cards from documents received from MDSC, operate the computer and satellite, and return the documents and computer output to MDSC.

An ASCS Data Processing Center in Dallas, Texas, rents a 7070 Computer owned by an insurance company. This DPC has a staff of applied mathematicians experienced in building mathematical models and the integration of business and mathematical programs within a system in daily production. Also, the DPC has an experienced System, Programming and Operations Staff.

The Dallas DPC will build the mathematical models, define the computer programs, develop and maintain the computer and satellite, and return the documents and computer output to MDSC.

The 7070 in Dallas will receive 705 III and 1401 tapes from the New Orleans DPC as input to the mathematical programs. These DPC's have been shipping magnetic tape between the two cities for more than 2 years.

As developed by the System Design Work Group and presented by the Cost Group, the hourly charge to MDSC for the two computers is much less than the rent charged by manufacturers. Additionally, the use of the existing DPC's provides experienced ADP personnel already employed within the Department. The cost of the services to MDSC will be the reimbursement to ASCS for the salaries and expenses of employees and supervisors who perform services for MDSC.

MDSC Organization

The Organizational Chart for MDSC is shown as Exhibit XI. It provides for:

Office of the Director  
Automatic Data Processing Staff  
Administrative Staff

Control Division

Processing Division

Accounting Division

The staffing, as shown in Exhibit XII, requires 241 employees. The cost is included in the Cost Group Report. These staffing requirements are based on existing volume. This staff will be developed by MDSC over a period of time as the system is installed and applied to groups of employees.

The organization and staffing requirements were developed by the Payroll, Accounting and Budget Group. Operating responsibilities and estimated volume of documents -- from all application areas within this system -- were considered. The organization contemplates the assignment of related activities and responsibilities to a single Division.

### Financing

Details of the estimated costs for planning and operating the MDSC are included in the cost section of this report. These estimates indicate that preliminary planning, program development and testing, and testing, and other related costs will amount to approximately \$1,000,000. These costs are essential and could be properly amortized as an operating cost during the first few years of actual operation of the Center. For a short time costs will also be involved in the continuation of present systems and the testing of the new system (See section on system conversion for details).

The continuing operating costs of the Center will be directly related to the number of employees in the Department and the specific services furnished to agencies.

This report contains detailed recommendations for services that the Center should render; the annual cost of these services is estimated to be approximately \$1,800,000.

The Center could be financed in one of several ways, as follows:

1. Pursuant to authorities now vested in the Secretary of Agriculture, the specific functions and related funds, now performed by agencies of the Department that would be performed by the Center could be transferred to the Center. Thereafter, the Center would operate as a Departmental function identity for which funds for operations would be specifically requested as a part of the annual appropriation.
2. Pursuant to authority contained in Section 601 of the Act of June 30, 1932, as amended, (The Economy Act, 31 USC 686) the Secretary could determine that the services of the Center should be used by all agencies of the Department. Under this authority, each agency would pay the Center for the cost of services rendered on an advance or reimbursable basis.
3. The authorities of the Working Capital Fund of the Department of Agriculture could be used. Legislative authority for this fund was given to the Department on July 12, 1943 (5 USC 542-1).

These three means of financing the Center have been carefully considered. It is believed that the third, the use of the Working Capital Fund, should be adopted for the following reasons:



1. There is specific legal authority for the operation of central tabulating services.
2. The legislative authorization for the fund specifically provided "...That such central services shall, to the fullest extent practicable, be used to make unnecessary the maintenance of separate like services in the bureaus, offices and agencies of the Department."
3. The Act provides that the Secretary of Agriculture, with the approval of the Director of the Bureau of the Budget, may authorize the maintenance and operation of such other services as he determines may be performed more advantageously as central services.
4. The law has specific provisions relating to the determination of charges to agencies for services rendered.

If the foregoing recommendation is adopted, the Department should initiate action to obtain concurrence of the Director of the Bureau of the Budget on this proposal. In addition, it will be necessary to obtain the Director's approval of proposed amendments to the basic legislation to either (1) increase the capitalization of the fund (presently \$400,000) to provide adequate operating funds, or (2) amend the present legislation to provide for advances to the fund by agencies for whom services will be rendered. The present legislation only authorizes reimbursement for services required.

As soon as decisions have been made in the Department on the recommendations in this report, it is suggested that arrangements be made for discussions with appropriate Congressional committees and individual Members of Congress. Each should be fully informed on (1) the purpose and objective of this study; (2) the conclusions and recommendations resulting from it, and (3) the legislative authority that will be needed to get the total job done.

#### Operation

The Office of the Director will include one assistant and one secretary in the immediate Office of the Director. Two staffs will be included -- Automatic Data Processing Staff and Administrative Staff.

The Automatic Data Processing Staff will advise the DPC as to any system changes required as a result of changes in rules, regulations, and laws affecting such transactions as withholding taxes, rates of pay, leave, and retirement. Agency requests for special reports and additional output will be received. If new application areas are added, assistance will be furnished in the system design and installation.

The Administrative Staff will prepare the budget for the Center, handle the property, and perform liaison with the ASCS New Orleans office relative to personnel, procurement and reproduction services performed for the Center on a reimbursable basis. A work measurement system will be used to maximize effective allocation of manpower to the Divisions.

The Control Division will determine that a negative or positive report is received from each document-transmitting station in the Department. This determination will be made for each reporting cycle -- weekly, biweekly, monthly, quarterly, or annually. Inquiries about employees -- which can be answered from print-outs on file -- will be answered. If the question requires an inquiry to the computer, the transaction will be passed to the Processing Division. This Division will process incoming and outgoing mail involving more than 3,000 locations; maintain the central files for the Center, control the appointments of designated agents of the Treasury Department, and provide messenger service for the Center.

The Processing Division will receive the transmittals and documents from the Control Division. The transmittals will be reviewed for apparent completeness. Those apparently complete will be divided. Those which the transmittals indicate contain unusual transactions will be routed for further review and coding.

Transmittals with control totals and the documents will be sent to the New Orleans DPC for card punching, verification, balancing, and editing. Rejects will be placed on Exception Registers. These will be researched, corrected, and re-entered.

Requests that need inquiries to the computer will be received from the Control Division. For these inquiries, forms will be prepared and sent to the DPC. These cards will be punched, verified, and entered into the system with other business. Print-outs from inquiries will be used to prepare the reply to the original request.

This Division will process an average of 90,000 time and attendance reports every 2 weeks. It is estimated that 50,000 will require some change in pay due to overtime, night differential, deduction change, or leave exception. Other documents to be processed include 12,000 personnel actions; 2,000 bond, tax or insurance changes; 1,200 special transactions such as death claims, collections, check cancellations, leave transfers, and fund transfers.

The Accounting Division will maintain the controls necessary to insure the orderly production of all required reports. Accounts will be posted from registers produced by the DPC. Cost accounts will be maintained so as to present the financial status of the operation of the Center, form the basis for payments to the DPC's, and form the basis for billings, make collections, schedule deposits, and schedule payments. More than 2,000 payroll and accounting reports will be processed every 2 weeks under the present accounting system. Additionally, a substantial volume of personnel, budgetary, and management reports will be processed.



Numbering System

To identify each 1401, 705, and 7070 program and its related inputs and outputs, a numbering system consisting of nine digits is recommended. It can be reduced to six digits after implementation by reducing the alpha application code to a single character.

This proposed identification code is composed of the following:

<u>Digits</u>	<u>Purpose</u>	<u>Example</u>
1-4	Application Designation	<u>PADA</u> (Payroll)
5-7	Run or Program Number	
	<u>Note:</u> 705 and 7070 runs will be in increments of 5, always ending in 0 or 5. 1401 runs will be identified to their related 705 and 7070 program by decrementing its number by 1 for inputs and incrementing its number by 1 for outputs.	PADA <u>010</u>
8	Auxiliary Use Code	
	2 = card-to-tape	PADA00921
	3 = tape-to-card	PADA011 <u>3</u> 1
	4 = tape-to-print	PADA01141
	9 = tape for subsequent computer input	PADA010 <u>9</u> 0
9	Auxiliary Number	
	First tape-to-print	PADA01141
	Second tape-to-print	PADA0114 <u>2</u>

Using this method of identification it is possible to look at any tape, input or output, and know the run in which it was created as well as its intended use. For example:

PADA05141 would indicate the first (1 in position 9) tape-to-print (4 in position 8) output (1 in position 7) from PADA 050 (051 was created by incrementing related 705 or 7070 run by 1 for output.)

PADA03922 would indicate the second (2 in position 9) card-to-tape (2 in position 8) input (9 in position 7) for use in PADA040 (039 was created by decrementing related 705 or 7070 run by 1 for input.)

PADA05094 would indicate the fourth (4 in position 9) tape for subsequent computer input (9 in position 8) output (0 in position 7) from PADA050 (not for auxiliary use so no increment or decrement occurs.)

MASTER FILES

PAYROLL MASTER FILE AND SUPPLEMENTAL PAYROLL MASTER FILE

<u>Field</u>	<u>Method of Recording</u>	<u>Anticipated Number of Characters</u>
Social Security Number	Actual - Numeric	10
Date of Birth	Actual - Numeric	6
First Name Code	Coded - Numeric	1
First Name	Actual - Alpha	12
Middle Name Code	Coded - Numeric	1
Middle Name	Actual - Alpha	12
Surname	Actual - Alpha	16
Citizenship	Coded - Numeric	1
Foreign National	Coded - Numeric	3
Physical Handicap	Coded - Numeric	2
Military Status	Coded - Numeric	1
Sex	Coded - Numeric	1
Marital Status	Coded - Numeric	1
Veterans Preference	Coded - Numeric	1
Residence Address	Actual - Alpha/Numeric	24
City	Actual - Alpha	16
State	Actual - Alpha	16
Check Mailing Address	Actual - Alpha	56
Alternate Owners' Use Code	Coded - Numeric	2
Number of Alternate Owners	Coded - Numeric	2
Alternate Owners Name & Address	Actual - Alpha	Variables (96 per owner)
Co-Owner or Beneficiary Use Code	Coded - Numeric	2
No. of Co-Owners or Beneficiaries	Coded - Numeric	2
Names & Addresses of Co-Owners or Beneficiaries	Actual - Alpha	Variables (96 per Beneficiaries)
Agency	Coded - Numeric	3
Office or Branch	Coded - Numeric	4
Duty Station:		
City	Coded - Numeric	3
County	Coded - Numeric	3
State	Coded - Numeric	2
Personnel Office	Coded - Numeric	4
Congressional District	Coded - Numeric	3
Check Distribution (1-mail address, 2-delivery point)	Coded - Numeric	1
Delivery Point	Coded - Numeric	4
Appropriation Code	Coded - Numeric	3
Allotment Code	Coded - Numeric	7
Project or Cost Center	Coded - Numeric	3
Accounting Point	Coded - Numeric	3
Manpower Inventory Code	Coded - Numeric	1
Function Cost Code (Direct or Indirect)	Coded - Numeric	1
EOD Date	Actual - Numeric	6

Exhibit II - 2  
System Implementation

<u>Field</u>	<u>Method of Recording</u>	<u>Anticipated Number of Characters</u>
Service Computation Date	Actual - Numeric	6
Position Number	Coded - Numeric	7
Service (GS or other Schedule)	Coded - Numeric	3
Grade and Step	Actual - Numeric	3
Classification Series	Coded - Numeric	6
Type of Appointment	Coded - Numeric	2
Apportioned Position	Coded - Numeric	1
Competitive or Excepted Service	Coded - Numeric	1
Department or Field	Coded - Numeric	1
Tenure Group for RIF	Coded - Numeric	1
Letter of Authorization Ident.	Coded - Numeric	4
Tenure Code	Coded - Numeric	1
Sensitive Position	Coded - Numeric	1
Date of Security Clearance	Actual - Numeric	6
Degree of Security Clearance	Coded - Numeric	1
Date of Last Action	Actual - Numeric	6
Transaction (Type of last action)	Coded - Numeric	3
Effective Date of Last PSI	Coded - Numeric (C.G.)	6
Last Performance Rating	Coded - Numeric	1
Annual Salary	Actual - Numeric (C.G.)	7
Hourly Rate	Actual - Numeric (C.G.)	4
Daily Rate	Actual - Numeric (C.G.)	4
Salary Differential	Actual - Numeric	7
Federal Share	Actual - Numeric	7
Part-Time Differential	Actual - Numeric	7
Cooperators Share	Actual - Numeric	7
Appointment Limitation - Hours	Actual - Numeric	4
Appointment Limitation - Money	Actual - Numeric	7
Pay Status (Code 1 paid last pay period; Code 2 not paid last pay period)	Coded - Numeric	1
Other Allowances & Tax symbol (Fed-1, State-2, Fed & State-3, Exempt-4)	Actual - Numeric	5
Uniform Allowance	Actual - Numeric	4
Horse Allowance	Actual - Numeric	4
Quarters Allowance	Actual - Numeric	4
Meals Allowance	Actual - Numeric	4
Retirement or FICA Code	Coded - Numeric	1
FEGLI	Coded - Numeric	1
Date of Last Health Election	Actual - Numeric	6
Health Registration Number	Actual - Numeric	7
Extra Federal Tax Deduction	Actual - Numeric	5
Health Enrollment Code	Coded - Numeric	3
Effective Date of Bond	Actual - Numeric (C.G.)	6
Federal Tax Exemptions	Actual - Numeric	2
Delinquent Tax Liability Amount	Actual - Numeric	6
Delinquent Tax Liability Deduction	Actual - Numeric	5
State Tax Exemption	Actual - Numeric	2
State Tax Non-Resident	Coded - Numeric	1

Exhibit II - 3  
System Implementation

<u>Field</u>	<u>Method of Recording</u>	<u>Anticipated Number of Characters</u>
Bond Purchase Price	Actual - Numeric	6
Current Base Pay	Actual - Numeric (C.G.)	6
Current N/D Pay	Actual - Numeric (C.G.)	6
Current O/T Pay	Actual - Numeric (C.G.)	5
Current Holiday Premium Pay	Actual - Numeric (C.G.)	5
Current Gross Pay	Actual - Numeric (C.G.)	6
Current CSR Deductions	Actual - Numeric (C.G.)	5
Current FEGLI Deductions	Actual - Numeric	4
Current FICA Deductions	Actual - Numeric (C.G.)	4
Current Federal Tax Deductions	Actual - Numeric	5
Current State Tax Deductions	Actual - Numeric	5
Bond Deduction	Actual - Numeric	6
Bond Deduction Carryover	Actual - Numeric (C.G.)	4
Current Other Deductions:		
Total Amount Owed	Actual - Numeric	7
Amount of Deduction each Time	Actual - Numeric	5
Balance Owed	Actual - Numeric (C.G.)	7
Employers' Health Contribution	Actual - Numeric	4
Employees' Health Deduction	Actual - Numeric	4
Current Net Pay	Actual - Numeric (C.G.)	6
QTD Base Pay	Actual - Numeric (C.G.)	7
QTD Gross Pay	Actual - Numeric (C.G.)	7
QTD FICA Wages	Actual - Numeric (C.G.)	6
QTD FICA Deductions	Actual - Numeric (C.G.)	5
QTD Federal Tax Deductions	Actual - Numeric (C.G.)	5
QTD State Tax Deductions (allow for 4 States)	Actual - Numeric (C.G.)	24
QTD Health Deductions	Actual - Numeric (C.G.)	5
QTD Health Government Contribution	Actual - Numeric (C.G.)	5
YTD Base Pay	Actual - Numeric (C.G.)	7
YTD N/D Pay	Actual - Numeric (C.G.)	7
YTD O/T Pay	Actual - Numeric (C.G.)	6
YTD Holiday Pay	Actual - Numeric (C.G.)	5
YTD Other Pay	Actual - Numeric (C.G.)	6
YTD Gross Pay	Actual - Numeric (C.G.)	7
YTD CSR Deduction	Actual - Numeric (C.G.)	6
YTD FEGLI Deductions	Actual - Numeric (C.G.)	5
YTD FICA Wages	Actual - Numeric (C.G.)	6
YTD FICA Deductions	Actual - Numeric (C.G.)	4
YTD Federal Tax Deductions	Actual - Numeric (C.G.)	6
YTD State Tax Deductions (allow for 4 States)	Actual - Numeric (C.G.)	24
YTD Bond Deductions	Actual - Numeric (C.G.)	6
YTD Other Deductions	Actual - Numeric (C.G.)	5
YTD Health Benefits Deductions	Actual - Numeric (C.G.)	5
YTD Government Health Contribution	Actual - Numeric (C.G.)	5
YTD Net Pay	Actual - Numeric (C.G.)	7
YTD Regular Hours	Actual - Numeric (C.G.)	4
YTD N/D Hours	Actual - Numeric (C.G.)	4



<u>Field</u>	<u>Method of Recording</u>	<u>Anticipated Number of Characters</u>
YTD O/T Hours	Actual - Numeric (C.G.)	4
YTD Holiday Hours	Actual - Numeric (C.G.)	4
YTD Administrative Leave	Actual - Numeric	3
Lump-Sum A/L Hours	Actual - Numeric	4
Lump Sum A/L Salary	Actual - Numeric	7
Previous Year A/L Balance	Actual - Numeric (C.G.)	4
Year-to-Date A/L Earned	Actual - Numeric (C.G.)	3
Year-to-Date A/L Used	Actual - Numeric (C.G.)	3
Current A/L Balance	Actual - Numeric (C.G.)	3
Compensatory Time:		
Previous Year Balance	Actual - Numeric	4
Year-to-Date Earned	Actual - Numeric	3
Year-to-Date Used	Actual - Numeric	3
Current Balance	Actual - Numeric	3
Previous Year S/L Balance	Actual - Numeric (C.G.)	4
Year-to-Date S/L Earned	Actual - Numeric (C.G.)	3
Year-to-Date S/L Used	Actual - Numeric (C.G.)	4
Current S/L Balance	Actual - Numeric (C.G.)	4
Year-to-Date LWOP	Actual - Numeric (C.G.)	4
LWOP Since Last PSI	Actual - Numeric (C.G.)	4
Fiscal Year-to-Date		
Military Leave	Actual - Numeric	4
Terminal Leave Hours	Actual - Numeric	3
Part-Time Regular Tour Hours	Actual - Numeric	4
Part-Time Hours Toward PSI	Actual - Numeric	4
Part-Time Hours Carryover PSI	Actual - Numeric (C.G.)	3
Part-Time Hours Toward A/L	Actual - Numeric	3
Part-Time Hours Carryover A/L	Actual - Numeric (C.G.)	2
Part-Time Hours Toward S/L	Actual - Numeric	3
Part-Time Hours Carryover S/L	Actual - Numeric (C.G.)	2
	Total	1,000

POSITION AND JOB MASTER FILE

<u>Field</u>	<u>Method of Recording</u>	<u>Anticipated Number of Characters</u>
Agency	Coded - Numeric	3
Office or Branch	Coded - Numeric	4
Duty Station:		
City	Coded - Numeric	3
County	Coded - Numeric	3
State	Coded - Numeric	2
Series Code	Coded - Numeric	4
Job Number	Coded - Numeric	7
Service - GS or other	Coded - Numeric	3
Grade and Step	Coded - Numeric	3
Official Title & Working Title	Actual - Numeric	80
Sensitive Position	Coded - Numeric	1
Position Limitation	Coded - Numeric	2
Apportioned Position	Coded - Numeric	1
Security Classification	Coded - Numeric	1
Base Salary	Actual - Numeric	5
Cooperator's Share	Actual - Numeric	5
Budget Code	Coded - Numeric	1
Appropriation Code	Coded - Numeric	3
Name of Incumbent	Actual - Alpha	40
Date Established	Actual - Numeric	6
Date Filled	Actual - Numeric	6
Date Vacated	Actual - Numeric	6
Date Abolished	Actual - Numeric	6
LWOP Accumulation Hours	Actual - Numeric	4
LAPSED Hours Accumulation	Actual - Numeric	4
Total Variable Minimum		203

RETIREMENT MASTER FILE

<u>Field</u>	<u>Method of Recording</u>	<u>Anticipated Number of Characters</u>
Social Security Number	Actual - Numeric	10
Name	Actual - Alpha	40
Sex	Coded - Numeric	1
Date of Birth	Actual - Numeric	5
Agency	Coded - Numeric	3
Service History Line Counter (To be recorded each action) (C. G.)		2
Effective Date of Action	Actual - Numeric	6
Type of Action	Coded - Numeric	2
New Base Pay	Actual - Numeric	7
LWOP in Excess of 130 Days	Actual - Numeric	5
Fiscal Record (To be updated annually)		
Year	Actual - Numeric	2
Calendar Year CSR Deductions	Actual - Numeric	6
Cumulative CSR Deductions (all years in Department)	Actual - Numeric	7
Total Variable Minimum		96



BUDGET MASTER FILE

<u>Field</u>	<u>Method of Recording</u>	<u>Anticipated Number of Characters</u>
Appropriation	Coded - Numeric	3
Allottee	Coded - Numeric	6
Agency	Coded - Numeric	3
Office or Branch	Coded - Numeric	4
Accounting Point	Coded - Numeric	4
Activity Code	Coded - Numeric	4
Sub-Activity Code	Coded - Numeric	6
Function Cost Code (Direct/Indirect)	Coded - Numeric	1
Appropriation Amount	Actual - Numeric	8
Other Sources Amount	Actual - Numeric	8
Other Sources Code	Coded - Numeric	3
Number of Units of Work	Actual - Numeric	8
Type of Unit	Coded - Numeric	2
Date of Appropriation (Mo. & Yr.)	Actual - Numeric	4
DR/CR Code	Coded - Numeric	1
QTD Gross Pay	Actual - Numeric (C. G.)	7
QTD Base Pay	Actual - Numeric (C. G.)	7
QTD O/T Pay	Actual - Numeric (C. G.)	6
QTD N/D Pay	Actual - Numeric (C. G.)	7
QTD Holiday Pay	Actual - Numeric (C. G.)	5
FYTD Gross Pay	Actual - Numeric (C. G.)	7
FYTD Base Pay	Actual - Numeric (C. G.)	7
FYTD O/T Pay	Actual - Numeric (C. G.)	6
FYTD N/D Pay	Actual - Numeric (C. G.)	7
FYTD Holiday Pay	Actual - Numeric (C. G.)	5
QTD Hours - Regular	Actual - Numeric (C. G.)	4
QTD Hours - O/T	Actual - Numeric (C. G.)	4
QTD Hours - N/D	Actual - Numeric (C. G.)	4
QTD Hours - Holidays	Actual - Numeric (C. G.)	4
FYTD Hours - Regular	Actual - Numeric (C. G.)	4
FYTD Hours - O/T	Actual - Numeric (C. G.)	4
FYTD Hours - N/D	Actual - Numeric (C. G.)	4
FYTD Hours - Holiday	Actual - Numeric (C. G.)	3
Lump Sum Payments - FYTD	Actual - Numeric (C. G.)	7
Lump Sum Hours Paid - FYTD	Actual - Numeric (C. G.)	5
Government CSR Contribution	Actual - Numeric (C. G.)	7
Government FEGLI Contribution	Actual - Numeric (C. G.)	6
Government Health Benefits Contribution	Actual - Numeric (C. G.)	7
Government FICA Contribution	Actual - Numeric (C. G.)	6
Total Variable Minimum		198

PERSONNEL MASTER FILE

<u>Field</u>	<u>Method of Recording</u>	<u>Anticipated Number of Characters</u>
<u>Indicative Information</u>		
Record Identification Number	Coded - Numeric	4
Social Security Number	Actual - Numeric	10
Agency	Coded - Numeric	3
Office or Branch	Coded - Numeric	4
Service (GS or other)	Coded - Alpha	3
Annual Salary	Actual - Numeric	5
Grade & Step	Actual - Numeric	3
Date of Birth (Month & Year)	Actual - Numeric	4
Veterans Service Date	Actual - Numeric	6
Personnel Office Code	Coded - Numeric	2
Sex	Coded - Numeric	1
Pay Category	Coded - Numeric	1
Present Position Number	Coded - Numeric	5
Year of High School Graduation	Actual - Numeric	2
Name	Actual - Alpha	18
<u>Supplemental Indicative Data</u>		
Record Identification Number	Coded - Numeric	4
Social Security Number	Actual - Numeric	10
Marital Status	Coded - Numeric	1
Veterans Preference	Coded - Numeric	1
Military Status	Coded - Numeric	1
Retention Group	Coded - Numeric	1
Field or Departmental	Coded - Numeric	1
Tenure Group	Coded - Numeric	1
Security Clearance	Coded - Numeric	1
Citizenship	Coded - Numeric	1
Foreign Residence (Country & duration)	Coded - Numeric	4
Availability for (1) Travel	Coded - Numeric	1
(2) Reassignment		
Physical Handicap	Coded - Alpha/Numeric	2
Supervisory Evaluation	Coded - Numeric	1
Number of Dependents	Actual - Numeric	2
Type of Dependents	Coded - Numeric	1
Date of Present Grade	Actual - Numeric	4
Present Position Title	Actual - Alpha	40

<u>Field</u>	<u>Method of Recording</u>	<u>Anticipated Number of Characters</u>
<u>Previous Work History Record</u>		
Record Identification Number	Coded - Numeric	4
Social Security Number	Actual - Numeric	10
Past Position Name	Actual - Alpha	40
Top Salary Achieved	Actual - Numeric	5
Number of Months in Position:		
Beginning Date	Actual - Numeric	6
Ending Date	Actual - Numeric	6
Employer Type	Coded - Numeric	1
Family Code:		
Group	Coded - Numeric	3
Specialization	Coded - Numeric	3
Level	Coded - Numeric	2
<u>Other Training</u>		
Record Identification Number	Coded - Numeric	4
Social Security Number	Actual - Numeric	10
Year Taken	Actual - Numeric	2
Course Title	Actual - Alpha	40
Length of Course (Months)	Actual - Numeric	2
<u>Fields of Specialization</u>		
Record Identification Number	Coded - Numeric	4
Social Security Number	Actual - Numeric	10
Name of Field	Actual - Alpha	58
Family Code	Coded - Numeric	8
<u>Scholarships &amp; Fellowships</u>		
Record Identification Number	Coded - Numeric	4
Social Security Number	Actual - Numeric	10
Scholarship or Fellowship Code	Coded - Numeric	1
Name	Actual - Alpha	40

<u>Field</u>	<u>Method of Recording</u>	<u>Anticipated Number of Characters</u>
<u>Education</u>		
Record Identification Number	Coded - Numeric	4
Social Security Number	Actual - Numeric	10
Institution Code	Coded - Numeric	4
Degree	Coded - Numeric	3
Level of Degree	Coded - Numeric	2
Hours of Credit	Actual - Numeric	3
Year Last Attended	Actual - Numeric	2
Major: First	Coded - Numeric	5
Second	Coded - Numeric	5
Third	Coded - Numeric	5
Minor: First	Coded - Numeric	5
Second	Coded - Numeric	5
Third	Coded - Numeric	5
Academic Honors Received	Coded - Numeric	2
<u>Teaching Experience</u>		
Record Identification Number	Coded - Numeric	4
Social Security Number	Actual - Numeric	10
Number of Years	Actual - Numeric	2
Level Taught	Coded - Numeric	1
Subject	Actual - Alpha	40
Where Taught (State)	Coded - Numeric	2
Institution of Higher Learning	Coded - Numeric	4
<u>Publications</u>		
Record Identification Number	Coded - Numeric	4
Social Security Number	Actual - Numeric	10
Year of Publication	Actual - Numeric	2
Publication Name	Actual - Alpha	39
Journal Name	Actual - Alpha	25
<u>Professional &amp; Honorary Societies</u>		
Record Identification Number	Coded - Numeric	4
Social Security Number	Actual - Numeric	10
Professional or Honorary Code	Coded - Numeric	1
Society Name	Actual - Alpha	40



<u>Field</u>	<u>Method of Recording</u>	<u>Anticipated Number of Characters</u>
<u>Civic and Other Organizations</u>		
Record Identification	Coded - Numeric	4
Social Security Number	Actual - Numeric	10
Year	Actual - Numeric	2
Office Held	Coded - Numeric	1
Organization Name	Actual - Alpha	40
<u>Professional License</u>		
Record Identification Number	Coded - Numeric	4
Social Security Number	Actual - Numeric	10
Type of License - Code	Coded - Numeric	2
Name of License	Actual - Alpha	20
License No.	Actual - Alpha-Numeric	8
<u>Committee Membership</u>		
Record Identification Number	Coded - Numeric	4
Social Security Number	Actual - Numeric	10
Year Served	Actual - Numeric	2
Committee Name	Actual - Alpha	40
Type Committee	Coded - Numeric	1
Position Held	Coded - Numeric	1
<u>Foreign Languages</u> (Speak, Read, Write)		
Record Identification Number	Actual - Numeric	4
Social Security Number	Actual - Numeric	10
Number of Languages	Actual - Numeric	2
1 Chinese	Coded - Numeric	5
2 French	Coded - Numeric	5
3 German	Coded - Numeric	5
4 Italian	Coded - Numeric	5
5 Japanese	Coded - Numeric	5
6 Portuguese	Coded - Numeric	5
7 Russian	Coded - Numeric	5
8 Spanish	Coded - Numeric	5

Note: For each language a five-character field will be recorded. The first two will indicate the language and the last three will indicate the level of proficiency.

<u>Field</u>	<u>Method of Recording</u>	<u>Anticipated Number of Characters</u>
<u>Patents</u>		
Record Identification Number	Coded - Numeric	4
Social Security Number	Actual - Numeric	10
Year Obtained	Actual - Numeric	2
Name of Patent	Actual - Alpha	40
Patent Registration Number	Actual - Numeric	10
<u>Future Interests</u>		
Record Identification Number	Coded - Numeric	4
Social Security Number	Actual - Numeric	10
Name of Interest	Actual - Alpha	58
Family Code	Coded - Numeric	8
<u>Hobbies</u>		
Record Identification Number	Coded - Numeric	4
Social Security Number	Actual - Numeric	10
Name of Hobby	Actual - Alpha	40
<u>Awards</u>		
Record Identification Number	Coded - Numeric	4
Social Security Number	Actual - Numeric	10
Type of Award	Coded - Numeric	1
Year of Award	Actual - Numeric	2
Cash Amount (if any)	Actual - Numeric	5
Award Name	Actual - Alpha	40
<u>Leave Record</u>		
Record Identification Number	Coded - Numeric	4
Social Security Number	Actual - Numeric	10
Year 1 or 2	Coded - Numeric	1
Sick Leave by Pay Period - 26 Periods	Actual - Numeric	52
Sick Leave Accumulation	Actual - Numeric	4
Annual Leave Ceiling - Hours	Actual - Numeric	3
Annual Leave Accumulated	Actual - Numeric	3

<u>Field</u>	<u>Method of Recording</u>	<u>Anticipated Number of Characters</u>
<u>Adverse Actions</u>		
Record Identification Number	Coded - Numeric	4
Social Security Number	Actual - Numeric	10
Date of Action	Actual - Numeric	6
Nature of Action	Actual - Numeric	60

Physical Examination

Record Identification Number	Coded - Numeric	4
Social Security Number	Actual - Numeric	10
Year Examined	Actual - Numeric	2
Age	Actual - Numeric	2
Weight	Actual - Numeric	3
Height (Inches)	Actual - Numeric	2
Blood Pressure	Coded - Numeric	6
Vision	Coded - Numeric	4
Electrocardiogram	Coded - Numeric	6
Type of Condition - Max. 14 Conditions	Coded - Numeric	2
Level of Condition	Coded - Numeric	1

(Records physical conditions that exist, i.e., kidney infections, gall bladder defects, etc.)

Voucher Appraisal

Record Identification Number	Coded - Numeric	4
Social Security Number	Actual - Numeric	10
Year Rated	Actual - Numeric	2
Family Code	Coded - Numeric	5
Specialization Code	Coded - Numeric	3
Rating Factor (Repeat for Each Factor)	Coded - Numeric	2
Rating (Repeat for Each Factor)	Coded - Numeric	1

Test Measurements

Record Identification Number	Coded - Numeric	4
Social Security Number	Actual - Numeric	10
Test Number	Actual - Alpha/Numeric	5
Date of Test	Actual - Numeric	4
Test Score	Actual - Numeric	3
Test Name	Actual - Alpha	40

<u>Field</u>	<u>Method of Recording</u>	<u>Anticipated Number of Characters</u>
<u>Machine Appraisal</u>		
Record Identification Number	Coded - Numeric	4
Social Security Number	Actual - Numeric	10
Year of Evaluation	Actual - Numeric	2
Family Code	Coded - Numeric	8
Rating Factor (Repeat for Each Factor)	Coded - Numeric	2
Rating (Repeat for Each Factor)	Coded - Numeric	1

(Record replaced after each appraisal.)

Machine Analysis Result Record

Record Identification Number	Coded - Numeric	4
Social Security Number	Actual - Numeric	10
Analysis	Coded - Numeric	67

(This analysis record will reflect outstanding abilities, characteristics, etc., of the individual.) This is a replacement type record. Any change record, i.e., promotion, evaluation, transfer, etc., will cause this person to be re-analyzed, a new record created and replace previous record.



PERSONNEL HISTORY SUMMARY

<u>Field</u>	<u>Method of Recording</u>	<u>Anticipated Number of Characters</u>
Social Security Number	Actual - Numeric	9
Agency	Coded - Numeric	3
Office or Branch	Coded - Numeric	4
Service (GS or other)	Coded - Alpha	3
Grade & Step	Coded - Alpha	3
Date of Birth	Coded - Alpha	4
Veterans Service Date	Coded - Alpha	6
Personnel Office Code	Coded - Numeric	2
Sex	Coded - Numeric	1
Pay Category	Coded - Numeric	1
Present Position Number	Coded - Numeric	5
Year of High School Graduation	Actual - Numeric	2
Name of Employee	Actual - Alpha	18
Marital Status	Coded - Numeric	1
Veterans Preference	Coded - Numeric	1
Military Status	Coded - Numeric	1
Retention Group	Coded - Numeric	1
Field or Departmental	Coded - Numeric	1
Tenure Group	Coded - Numeric	1
Security Clearance	Coded - Numeric	1
Citizenship	Coded - Numeric	1
Foreign Residence (Country or Duration)	Coded - Numeric	4
Availability for (1) Travel		
(2) Reassignment	Coded - Numeric	1
Physical Handicap	Coded - Alpha/Numeric	2
Supervisory Evaluation	Coded - Numeric	1
Date of Evaluation	Actual - Numeric	4
Number of Dependents	Actual - Numeric	2
Type of Dependents	Coded - Numeric	1
Date of Present Grade	Actual - Numeric	4
Present Position Title	Coded - Numeric	5
Past Position Name	Coded - Numeric	5
Top Salary Achieved	Actual - Numeric	5
Beginning Date	Actual - Numeric	2
Ending Date	Actual - Numeric	2
Employer Type	Coded - Numeric	1
Family Code	Coded - Numeric	8
Number of Past Positions Held	Coded - Numeric	1
Number of Fellowships	Actual - Numeric	1
Fields of Specialization	Coded - Numeric	8
Institution Code	Coded - Numeric	4
Degree	Coded - Numeric	3
Level of Degree	Coded - Numeric	2
Hours of Credit	Actual - Numeric	3
Last Year Attended	Actual - Numeric	2

<u>Field</u>	<u>Method of Recording</u>	<u>Anticipated Number of Characters</u>
Major First	Coded - Numeric	5
Second	Coded - Numeric	5
Third	Coded - Numeric	5
Minor First	Coded - Numeric	5
Second	Coded - Numeric	5
Third	Coded - Numeric	5
Academic Honors Received	Coded - Numeric	2
Number of Languages	Actual - Numeric	2
Proficiency First	Coded - Numeric	5
Teaching, Number of Years	Actual - Numeric	2
Level Taught	Coded - Numeric	1
Subject	Coded - Numeric	5
Where Taught	Coded - Numeric	2
Institution of Higher Learning	Coded - Numeric	4
Hobbies First	Coded - Numeric	3
Second	Coded - Numeric	3
Third	Coded - Numeric	3
Number of Hobbies	Actual - Numeric	2
Number of Patents	Actual - Numeric	2
Other training, year taken	Actual - Numeric	2
Length of Course (MO)	Actual - Numeric	2
Course Title	Coded - Numeric	5
Number of Courses Taken	Actual - Numeric	2
Number of Publications	Actual - Numeric	2
Number of Awards	Actual - Numeric	2
Number of Adverse Actions	Actual - Numeric	2
Number of Professional or Honorary Societies	Actual - Numeric	1
Number of Fields of Specialization	Coded - Numeric	1
Future Interests	Coded - Numeric	8
Number of Future Interests	Coded - Numeric	1
Committee Membership (Year Served)	Coded - Numeric	2
Committee Name	Coded - Numeric	5
Number of Committee Memberships	Coded - Numeric	1
Number of Civil/Other Organizations	Coded - Numeric	1
Sick Leave Classification	Coded - Numeric	1
Annual Leave Classification	Coded - Numeric	1
Professional License First	Coded - Numeric	2
Second	Coded - Numeric	2
Number of Professional Licenses	Coded - Numeric	1
Last Physical Examination (Year)	Actual - Numeric	2
Age	Actual - Numeric	2
Weight	Actual - Numeric	3
Height (Inches)	Actual - Numeric	2
Blood Pressure	Coded - Numeric	6
Vision	Coded - Numeric	4
Electrocardiogram	Coded - Numeric	6
Physical Condition on History	Coded - Numeric	1

<u>Field</u>	<u>Method of Recording</u>	<u>Anticipated Number of Characters</u>
Machine Analysis	Coded - Numeric	<u>67</u>
	Total Number of Characters	343

MATH CONSTANTS AND CONSTRAINTS TAPE

<u>Field</u>	<u>Method of Recording</u>	<u>Anticipated Number of Characters</u>
<u>Standards</u>		
(Standards established by research groups and those fixed by management)		
Program Code	Coded - Numeric	6
Man Months per Unit	Actual - Numeric	3
Unit Cost	Actual - Numeric	8
Number of Units of Work	Actual - Numeric	8
Type of Unit	Coded - Numeric	2
Unit of Measure	Coded - Numeric	2
Program Description Name	Actual - Alpha	40



FUNDS, PROGRAMS AND FIXED REQUIREMENTS

<u>Field</u>	<u>Method of Recording</u>	<u>Anticipated Number of Characters</u>
Record Identification	Coded - Numeric	2
Appropriation	Coded - Numeric	3
Allottee	Coded - Numeric	6
Agency	Coded - Numeric	3
Office or Branch	Coded - Numeric	4
Accounting Point	Coded - Numeric	4
Project Code	Coded - Numeric	4
Program Code	Coded - Numeric	6
Amount Appropriated	Actual - Numeric	8
Number of Units of Work	Actual - Numeric	8
Date Appropriated (Month and Year)	Actual - Numeric	4
Type Unit	Coded - Numeric	2
Expenditure	Actual - Numeric	8
Number of Units Complete	Actual - Numeric	8

FUNDS AND PROGRAMS MASTER TAPE

<u>Field</u>	<u>Method of Recording</u>	<u>Anticipated Number of Characters</u>
Record Identification	Coded - Numeric	2
Appropriation	Coded - Numeric	3
Allottee	Coded - Numeric	6
Agency	Coded - Numeric	3
Office or Branch	Coded - Numeric	4
Accounting Point	Coded - Numeric	4
Project Code	Coded - Numeric	4
Program Code	Coded - Numeric	6
Amount Appropriated	Actual - Numeric	8
Number of Units of Work	Actual - Numeric	8
Date Appropriated (Month and Year)	Actual - Numeric	4
Type of Unit	Coded - Numeric	2

OFFICE OF THE DIRECTOR

1. Program Direction -- Formulates policies and programs for the Data Processing Centers I/, and directs and supervises:
  - a. Maintenance of systems and programs required to meet management and operating needs of agencies and the Department for accounting, budgetary, manpower resources, and related data available from the DPC.
  - b. The Department payroll system including leave, retirement, other employee benefits, and savings bond activities.
2. Management Analysis -- For MDS develops and maintains internal operating procedures for the Center; recommends changes in Department Administrative Regulations as needed to provide for efficient operations; recommends adjustments in functional responsibilities to improve effectiveness of the system; develops work measurement and costs systems for the Center and bills agencies on a cost basis for services rendered.
3. Liaison -- Establishes and maintains effective liaison with officials of DPC, agency representatives, and the Office of the Secretary; keeps informed of current policy, rule and regulation changes which affect the functions assigned to the office, and promptly integrates such changes with the system.
4. Data Processing Coordination -- Coordinates the scheduling of input to the DPC on the basis of planned time; and requests changes in time as necessary to meet due dates for payrolls, accounting, budgetary, and personnel reporting requirements.

CONTROL DIVISION

1. Maintains incoming and outgoing mail facilities including classification and routing.
2. Microfilms records and reports for the Center and provides filing, locating, and reading facilities.
3. Maintains departmental directory of employees paid by the Center based on records received from DPC; handles routine requests for data on personnel, leave, pay, and retirement.
4. Receives and makes proper disposition of certain Treasury checks and savings bonds.
5. Coordinates and controls agency requests for designations of agents for the distribution of Treasury checks and savings bonds.
6. Obtains a positive or negative report from each reporting point for payroll, personnel, and budget documents.
7. Maintains print-outs of required documents and reports received from the DPC.

PROCESSING DIVISION

1. Reviews, as required, documents covering personnel accessions and other changes in appointments and processes to DPC with predetermined controls.
2. Reviews documents on personal history of employees included in the Manpower Inventory.
3. Review time and attendance reports, as required, and processes to DPC.
4. As required, reviews documents affecting employee deductions or pay and processes to DPC.
5. Analyzes and reconciles out-of-balance documents based on registers received from DPC.
6. As required, reviews for legality, and conformance with rules and regulations death and other wage claims, applications for retirement, final payment reports and lump-sum payments and processes to DPC.
7. Takes action to determine status of employees from biweekly print-out of those not receiving checks.
8. Reviews special requests for data on leave, pay, and retirement and processes to DPC.
9. Compiles wage and employment data as requested by States for individual unemployment compensation claims; processes required reports to DPC.
10. As required, reviews budgetary information received from agencies and the Department and processes to DPC.
11. Takes appropriate action to secure additional information and to correct those documents and reports not meeting requirements of the system; and initiates adjustments and correction actions to DPC.

ACCOUNTING DIVISION

1. Establishes controls covering required reports and takes necessary action to meet deadlines for payroll, accounting, personnel, and budget.
2. Receives accounting registers from DPC; prepares required manual reports from output; routes documents to appointing offices, agencies, the Department, and other Departments, or States.
3. Prepares billings, effects collections, and schedules deposits involving overpayments.
4. Furnishes information to agencies with regard to billings and collections for accounting purposes.
5. Prepares and processes cancellation actions for Treasury checks and bonds.
6. Schedules and certifies payments initiated by the DPC including savings bonds schedules.
7. Processes transfers to personnel services expenditures between Appropriations/Allotments.
8. Maintains general ledger accounts for retirement, Federal and State tax, bonds, accounts receivable, general fund receipts, suspense accounts, and other required reports.

MDSC STAFFING\*

OFFICE OF THE DIRECTOR  
(13 positions)

Director	GS-14
Assistant Director	GS-13
Secretary	GS-5
Automatic Data Processing Staff:	
Systems Analyst	GS-13
Systems Analyst	GS-12
Systems Analysts (2)	GS-11
Systems Analyst	GS-9
Stenographers (3)	GS-4
Administrative Services Staff:	
Administrative Officer	GS-12
Stenographer	GS-4

CONTROL DIVISION  
(31 positions)

Chief	GS-9
Assistant Chief	GS-7
Supervisors (2)	GS-5
Clerks (8)	GS-4
Clerks (17)	GS-3
Messengers (2)	GS-2

PROCESSING DIVISION  
(165 positions)

Chief	GS-12
Assistant Chief	GS-11
Secretary	GS-4
Supervisors (6)	GS-9
Supervisors (6)	GS-7
Clerks (36)	GS-5
Clerks (84)	GS-4
Clerks (30)	GS-3

ACCOUNTING DIVISION  
(32 positions)

Chief	GS-12
Assistant Chief	GS-11
Secretary	GS-4
Supervisors (3)	GS-9
Accounting Technicians (10)	GS-7
Accounting Clerks (13)	GS-5
Stenographers (3)	GS-4

Total Positions - 241

\*All grade levels represented are projected as a basis for estimating costs. Final grades will be determined on the basis of individual job descriptions.





PERSONNEL

Result of Personnel Study

Result of Operations Research Study

Computer Schematics

Exhibits



## RESULT OF PERSONNEL STUDY

### I PURPOSE AND SCOPE

The Personnel Work Group had three major responsibilities. The first was to determine the practicality of using automatic data processing methods to aid in maintaining personnel records and in making personnel reports. Cost and volume information for pertinent processes were developed to serve as a basis for the Group's recommendations. The second responsibility was to identify how such methods might otherwise be used to provide more useful and timely personnel information to all levels of management. The final responsibility was to explore the application of improved methods to other aspects of management.

Naturally, a study of this breadth makes it possible to identify aspects of personnel management which, while outside the purview of the central study, should not be ignored. Included in this report is a section concerning studies that should be made as a natural outgrowth of the current effort.

The report of findings and recommendations follows. Included are the descriptions of present clerical operations and the description of these operations when portions are automated. Relevant volume data are also included, as are descriptions of the Work Group's methods. Cost data developed by this Work Group is included in the report of the Cost Group. A proposed Manpower Inventory is discussed which, if implemented, will provide an effective method for improving career programs and utilizing professional, technical, executive, and managerial employees within the Department.

### II ENVIRONMENT CONSIDERATIONS

Personnel functions are carried out primarily under delegated authorities that have been given to each of the agencies and several of the staff offices.

Agencies of the Department differ greatly in organization as well as in management and operating policies, philosophies, and methods. They also differ in size and in kind and scope of programs. Some are very small, while others are quite large. Some have basically one program, while others have a multiplicity of different programs. Some have decentralized both program and administrative functions and authorities to regional and other levels; others are centralized; and still others have decentralized common services but retained both technical program and policy direction at agency headquarters.

The personnel activities of the Department are a complex resulting from (a) wide variations in operating programs and employee skill requirements by agency; (b) seasonal fluctuations in employment; (c) large groups of part-time and intermittent employees; and (d) the peculiar status of a large number of employees who may or may not be compensated with Federal monies — who are not regularly appointed employees but do receive varying degrees of Federal employment benefits.

As of the end of June 1961, the following employment figures prevailed:

Full-time employees, within D. C. area.....	11,686
Full-time employees, outside D. C. area.....	75,576
Total full-time employees.....	87,262
Part-time and intermittent employees, outside D. C. area.....	15,018
Part-time and intermittent employees, within D. C. area.....	277
Total full-time and part-time employees.....	102,557

These figures represent employees who held Federal appointments in the Department and who earned pay during June 1961. (See Exhibit I for figures by agency) Excluded are several thousands of regularly appointed employees who were on the rolls but who did not earn pay during the month of June. These figures also exclude an estimated 40,000 individuals, such as ASCS county office employees, Federal/State Extension workers, and Forest Service casuats.

Figures regarding turnover rates are available only for full-time employees. The average rate of employment turnover throughout the year is about 2 percent a month. Higher rates of turnover occur during the summer and autumn reflecting a seasonal intake and outgo of full-time temporary employees.

### III FINDINGS

#### A. General

At the outset of the study the Group recognized that differences in the nature, organization, and demands of agency programs would have a significant bearing on the organization of and resources devoted by agencies to the conduct of personnel functions. Certain restrictions and assumptions were thus necessary to ensure the collection of meaningful data. The first of these was the decision that workload and cost data would be obtained only from offices that exercise delegated authority to effect personnel actions for formal appointees. This eliminated from cost consideration the several thousand officials who have Letters of Authorization to employ persons on a temporary, when-actually-employed, part-time or intermittent basis incident to the conduct of their work without going through the formal, prior-approval processes that apply to "regular" employees. A second restriction was that offices to which questionnaires were sent were asked to furnish man-year and cost data only for employees who devote 50 percent or more of their time to personnel functions. Although many persons who devote less than half time to personnel work are thus not accounted for in this report, their duties are so mixed and they are so widely dispersed that installation of an ADP system would have little effect on the need for their services under the present organization and dispersion of personnel authorities.

Principal findings reached in the study follow:

1. A substantial part of the clerical effort now devoted to preparing and maintaining personnel documents, records, and statistical types of reports for use within the agencies and to meet mandatory requirements of the Department, the Civil Service Commission, the Congress, and other Federal Agencies can be accomplished effectively and economically by ADP methods.
2. It is both highly desirable and entirely feasible, with the capabilities of ADP, to establish and maintain a current inventory of scientific, professional, technical, executive, and administrative manpower of the Department and its agencies. This Inventory would provide: (a) a record of the nature, quality, depth, and location of the experience, skills, and capabilities of such employees; (b) rapid, reliable, and economical means of locating the best qualified prospective candidates for positions; and (c) current and reliable data for program planning and for achieving increasingly effective use of more highly skilled and valued personnel in the interest of both the Department's programs and career advancement of individual employees.



3. Adoption of the recommendations herein will not lead immediately to reduction in man-years and funds now being devoted by agencies to nonclerical personnel functions, but management attention to and effective use of products of the proposed system will lead to substantial benefits in program operations and personnel management.
4. Personnel authorities are being exercised by officials in approximately 130 offices. The study revealed that the number of such offices having a relatively low volume of position, personnel, and pay change actions greatly exceeds the number of offices having a high volume of such work; it also revealed that in 33 cities two or more Department agencies have their own separate personnel offices. The need for an economy of the present organization and dispersal of personnel functions and authorities on an agency as opposed to a geographical basis merit careful re-examination.
5. Replies to the questionnaires showed that, in fiscal year 1961, agencies of the Department devoted a total of 920.05 man-years to personnel functions at a cost for personal services and all other items of \$7,358,266. Of the total man-years, 593.6 at a cost of \$5,522,060 were devoted to nonclerical functions, which will not be affected immediately by the system described in this report. The remaining 326.45 man-years at a cost of \$1,836,206 were devoted to clerical activities, which will be substantially affected.

Budget estimates for fiscal year 1961 were 1,207 man-years at a cost of \$7.5 million. The questionnaire was not sent to 17 small offices that would not be affected materially, and man-years for only affected activities were obtained from the other offices. The questionnaire included cost of benefits and equipment that are not a part of the \$7.5 million.

#### B. Processes To Be Automated

If automation is to serve to the maximum, as many personnel records and reports as feasible and practical should be automated. On this assumption, as further substantiated by detailed listing under Output, III - E, the following personnel processes will be automated.

##### 1. Personnel Reporting

It is estimated that 90 percent of the regular recurring reports needed by the Department and outside agencies will be automated, as well as 70 percent of the regular recurring reports needed for internal use of agencies. Approximately 50 percent of special personnel reports, whether required by USDA or outside sources or for internal use of the agency, will be automated.

##### 2. Service Record Card, SF-7 and Position Identification Strip, SF-7-D

Since all the data presently entered and maintained on the SF-7 and the SF-7-D will be input to the system, (See III - D), the maintenance of these forms will be automated in full. This includes the maintenance of all tickler records associated with the SF-7 as follows:

- (a) Periodic step increases.
- (b) Conversions to career permanent appointments.



- (c) Probationary or trial period reports.
- (d) Expiration of appointments, working day limitations, or aggregate earnings maximum.
- (e) Eligibility for retirement.
- (f) Placement follow-up due dates.
- (g) Length of service awards.

3. Maintenance of Position Charts and Incumbency Records

This process will be simplified and, for low volume offices, will be reduced to the minimum. For high volume offices, it will consist of posting position changes occurring since the last biweekly chart was received from the Management Data Service Center (MDSC).

4. Maintenance of Reduction-in-Force Registers for Original Competition

This activity will be eliminated entirely where competition is nationwide or USDA-wide. In others, basic information will be furnished personnel offices which reduce the activity.

5. Maintenance of Sensitive Position Records

This process will be automated through input data obtained from the OF-8 (Position Description) or similar position classification form. (See III - D)

6. Preparation of Placement Registers for Intra-Departmental Placement

To the extent that the register is concerned with positions included in the Manpower Inventory, this process will be automated.

7. Preparation of Notification of Personnel Actions, SF-50 (Notification of Personnel Action) and AD-294 (Notice of Short Term Employment)

Once complete data on an employee is placed into the system, any changes (including separation) that affect the employee will be transcribed to a SF-50 by automation. The source data for the SF-50 change will be a document identifying the employee and indicating the change effected by proper authority. All new accessions will require the preparation of SF-50 by the appointing officer as at present. The effect of this change in procedure will be to reduce the volume of SF-50's (including AD-294) now being prepared in appointing offices. LA (Letter of Authority) appointments now effected on AD-294 will be effected on SF-50.

C. Manpower Inventory

The desirability of establishing a Manpower Inventory was given careful consideration. It was concluded that such an Inventory should be established for employees whose skills, knowledge, and contributions are of paramount importance to the success or failure of the varied work programs of the Department.

The Inventory will provide sound basis for detecting significant personnel trends at early stages, furnishing some measure of the degree of effectiveness achieved in the

management of the human resources of the Department, assisting in planning recruitment and career development programs, facilitating the placement of employees on a Department-wide basis, and enhancing the effectiveness of the Department in carrying out its responsibilities for identifying and referring qualified agricultural specialists for positions in the International Cooperation Administration, Food for Peace Program, Food and Agricultural Organization, and other similar agencies concerned with agricultural matters throughout the world.

The Inventory will include all permanent full-time employees in GS-5 and above who are in scientific, professional, technical, executive, and administrative occupational groups (as well as student trainees in lower grades hired from Civil Service Registers in these occupational fields). This will represent a total of approximately 34,000 employees, or 48 percent of total permanent full-time employees on USDA rolls as of June 30, 1961. It will include 140 occupational groups or 57 percent of the total used in USDA, the occupation and grade distribution of which is given in Exhibit II. Data items required to establish the Inventory are contained in Exhibit III. The computer system will contain enough flexibility to include additional groups of employees if future experience dictates the wisdom of doing so. It also will provide the capacity for capturing additional items of information on the individual employees included if this should become desirable.

While the foregoing represents the collective view of the Personnel Group, the various agencies of the Department should be given the opportunity to review and comment on the proposed scope of the Manpower Inventory. Valid reasons may exist, which otherwise might not be uncovered, for either excluding from the Inventory or including certain groups of employees.

Several important points should be considered in connection with establishing the Inventory. In order for it to be meaningful great care must be taken to assure that complete and accurate information is obtained initially and that a sound procedure is developed to keep the information up to date. Certain responsibilities must be assumed by the employees covered by the Inventory and by their supervisors, as well as by personnel officials throughout the Department. The two basic types of information that will be needed are personal history data from employees themselves and supervisory appraisals.

The personal history data for initiation of the program will be brought together in questionnaire form by individual appointing offices from official records. Employees will supply items that are not contained in official records. Appraisals of employees necessarily must be obtained from supervisory officials. Such appraisals are now being made in conjunction with the operation of merit promotion programs. However, there is considerable variation in the content of the various appraisal forms now in use throughout the Department. In view of this, consideration should be given to developing a standard Department appraisal form to be used uniformly for those employees covered by the Manpower Inventory. This form will be designed with enough flexibility to allow for certain designated appraisal items to be used for different groups of employees included within the Inventory. The standard appraisal form will be used both as a source document for the Manpower Inventory and for the normal operation of promotion programs within the agencies.

This Inventory will require the preparation of an initial input document for each included employee and a document for updating of prescribed items.



#### D. Input

The input data that will be necessary for the system to furnish the personnel products considered to be immediately susceptible to ADP application have been carefully identified. These data represent two major groupings, as follows: (1) Statistical items associated with the integrated payroll and personnel ADP system needed to prepare Notifications of Approved Personnel Actions, maintain "tickler" records, prepare certain mandatory statistical reports, and prepare and automatically revise position organizational charts; and (2) additional essential personal history and appraisal items for employees included in the Manpower Inventory for the purpose of preparing various reports and analyses to meet management needs of both the agencies and the Department as well as preparing lists of eligible employees for consideration for placement.

The specific input items needed for these objectives, together with identification of sources, are given in Exhibit III. This listing may be expanded as the application of the ADP system is extended to additional personnel activities.

#### E. Output

The personnel products that will be derived immediately from an ADP system in conjunction with its use for payrolling fall into four broad categories. They are: (1) Preparation of Notifications of Personnel Actions on SF-50 effecting changes and the information now provided on SF-1126 (Payroll Change Slip) exclusive of certain limited exceptions such as wage board and cooperative employees; (2) maintenance of many "tickler" records to indicate the need for follow-up or specific personnel actions on predetermined future dates and to furnish timely notice of these matters to the agencies; (3) preparation of position organizational charts for the agencies and the Department and automatically revising them as necessary; and (4) preparation of most recurring and nonrecurring statistical reports of a mandatory nature, which the Department is required to furnish to the Civil Service Commission, Congressional Committees, and other outside agencies, as well as within the Department and its agencies.

Additional output products that can be realized by expanding the initial system to include additional data on employees for the Manpower Inventory are: (1) Preparation of various types of reports and analyses considered desirable to meet internal management needs of both the agencies and the Department; and (2) preparation of lists of eligible employees (with summaries of their qualifications) from those included in the Manpower Inventory for consideration in filling specific vacancies within the Department, as well as in other agencies concerned with agricultural matters. The specific output data envisioned for all of these purposes are described in detail in Exhibit IV, which also indicates the contemplated frequency.

In addition to the foregoing, the computer system will be designed to be flexible enough to provide for other personnel products to be derived from it later as need arises. Some of the kinds of products visualized for future application are included in the recommendations (Section IV B).

### IV RECOMMENDATIONS

#### A. Initial Application

##### 1. All Employees

Personnel information contained on two basic documents - the appointment action and the position action - will be stored in the system. With such information the system will be able to print out all individual changes and terminations of appointments, as well as a large variety of statistical data required by external agencies or needed for internal control.

## 2. Employees in Selected Occupations

For these employees the system will store additional information on individual capabilities. This storage will permit rapid location of individuals within the Department who have specified qualifications or characteristics.

## 3. Salary Data

Information on each of the pay steps within each grade level specified by the Classification Act will be stored for use in processing actions covering all changes in base rates of pay.

## 4. Policy and Procedural Changes

(a) The following changes will simplify operation of the proposed system:

- (1) Use a Department-designed SF-50 as basic document for adding people to the rolls of the Department. This document will be prepared manually for all new appointments. It will replace existing SF-50's and SF-52's.

The use of AD-294 for temporary appointments has certain advantages under the present manual system. While its use could be continued under an automated system, its advantages lose significance when compared with the advantage of having a standard input document and a uniform notice to employees. The Civil Service Commission is proposing the use of SF-50A in lieu of AD-294, effective January 1, 1962. It is suggested that the Department prescribe use of SF-50 of its own design for all L/A (Letter of Authority) and other temporary appointments at that time.

- (2) Use a simplified input document to update data already in the system and to print out changes in appointments on SF-50.

All of the basic information on present employees will be stored in the system as initially established. All that will be needed to effect changes for employees on the rolls is a document showing the change to be made, the effective date, the authority for the change, and any special conditions. For example, a promotion request will identify the employee, the position to which assignment is to be made, the effective date and the authority for the action. Information as to service computation date, tenure group, retirement and insurance coverage, veterans preference, and position currently occupied, is in the system and need not be repeated on a request for change of appointment. Separation actions are merely another form of appointment change and will be processed in a similar manner.

- (3) Modify OF-8 and substitute forms to provide for coding of desired position information.

The present form contains all required information but some modification of arrangement will make it more compatible.



- (4) A special document will need to be designed to provide complete basic information for each employee on the rolls at the time the data is to be put in the system. This document will contain all prescribed information for every individual.
  - (5) Special documents will need to be designed for gathering initial information about the capabilities of individuals in selected occupations and for reporting changes in capabilities.
  - (6) Detailed program instructions for the retrieval, sorting, and assembly of data will need to be developed for many of the proposed output items.
- (b) The following actions will be taken after the system is implemented.
- (1) Clearances for outside recruitment under Title 8, Paragraph 404, of Administrative Regulations will be applicable only to those grade levels above the entrance for the occupations selected for inclusion in the Manpower Inventory.

Appointing officers will send inquiries to the MDSC.

- (2) Effective dates indicated for changes in appointments will be protected by the computer programs of the DPC.
- (3) It is anticipated that approval can be obtained from the Civil Service Commission to eliminate the maintenance of Service Record Cards (SF-7) and Position Identification Strips (SF-7d).

With information stored in the system and provision for outputs on specific data, these records will not be needed for employees currently on the rolls. Service records for separated employees covered by Retirement Act will be available on SF-2806 (Individual Retirement Record). For other separated employees a similar service record will be printed and stored at the MDSC.

- (4) Information on military status (Ready Reserve, Standby Reserve, Selective Service, etc. ) of employees will be included in the remarks space of SF-50.
- (5) Copies of notices showing degree of security clearance of employees will be sent from the Department Security Officer to the MDSC. Cancellations of special clearance or reductions in degree will be processed by use of the change form mentioned in 4 (a)(1) above.
- (6) Data on the date of appointment affidavits need not be entered in the system. The Department can prescribe that signature on the initial T&A report will include certification that required appointment affidavits are satisfactorily filed.

## B. Areas and Applications Worthy of Further Study

### General

The Group recognizes that the effect of modern management capabilities, including further use of automated methods, will have additional ramifications for effective



personnel management. Steps should be taken at an early date to study further the organization of personnel operations and the present methods of discharging personnel responsibilities which may be faced with obsolescence from the impact of modern technology. Specified areas are indicated in Section 7-a-(13) following and discussed in Section V.

#### 1. Organization of Personnel Offices

Many activities of personnel offices under the existing system are concerned with the essential function of recording, storing and processing information about employees. These activities will be altered and considerably reduced when all pertinent information is stored in the automated system.

The informational aspects of personnel offices are generally of high priority. With the transfer of much of this function, priorities will change. At that time, personnel offices will become less of a service organization and more of an advisory staff in helping line officers to:

- (a) Raise the level of employee motivation.
- (b) Increase the readiness of employees to accept change.
- (c) Develop teamwork and morale.
- (d) Further the development of individual employees.

Recognizing the effect of ADP on operations, these managerial needs should be restudied for the purpose of determining the location and composition of personnel offices.

#### 2. Delegation of Authority

Supervisory officials at all levels of organization should be authorized to document the classification of positions and the selection of personnel. Their decisions, then, would be implemented within established guidelines and periodically audited.

#### 3. Prior Approval Requirements

Present procedures requiring documentation of prior approvals on either SF-50 or SF-52 will need to be reviewed. This will provide an opportunity to re-examine all prior approval requirements within agencies and in the Office of Personnel.

#### 4. Appraisal Criteria

Full utilization of the information available for employees in the occupations selected for the Manpower Inventory will depend on the development of valid instruments for predicting success of employees in different environments. The Department should coordinate all agency efforts and provide special facilities needed to develop valid instruments.

#### 5. Agency Personnel Forms

Sample forms submitted for this study indicate that many elements of agency forms designed for the same purpose have common features. Further study of these should permit the design of a uniform USDA form for each common purpose. Agencies should modify or eliminate other forms designed for internal control purposes.

## 6. Revision of Standard Forms

Arrangements should be made to modify Standard Forms 50 (Notification of Personnel Action), 57 (Application for Federal Employment), and 60 (Application for Federal Employment, Short Form), to provide for each item of desired information.

If special reports for nonlisted information continue to be requested, provision should be made to include such data on a form that could be used to enter the information into the system in a confidential manner.

## 7. Other Data Processing

Many personnel activities involve the use of data not related to payrolling or budgeting operations. Some of this data is recommended for initial inclusion in the proposed system. Other data could be incorporated and the system should have the flexibility to absorb it when found feasible.

(a) Inclusions to be studied cover the following:

- (1) Wage rates established by authorized wage boards of the Department.
- (2) New positions proposed and existing positions to be eliminated by budgetary, organizational, or technological changes.
- (3) On-the-job injuries.
- (4) Vehicle accidents (land, air, and water).
- (5) Commendations and awards earned by paid employees.
- (6) Reprimands given paid employees.
- (7) Cooperative employees who receive no direct salary from an agency of the Department.
- (8) Higher level skills not being utilized by paid employees.
- (9) Qualified applicants for positions in the Department.
- (10) Promotion appraisal information.
- (11) Employee grievances and complaints.
- (12) Home addresses and telephone numbers of employees.
- (13) Standardized descriptive paragraphs applicable to specific aspects of various occupations.
- (14) Qualification requirements applicable to specific occupations which are so identified as to be matchable with qualifications of applicants under consideration.

(b) With the inclusion of the above information in the system, the following types of output would be expected:

- (1) Periodic step increases for wage board employees.
- (2) Analysis of wage data.
- (3) Analysis of injury and accidents.
- (4) Predictions of manpower needs in terms of training and recruitment requirements.
- (5) Analysis of awards and comparison of results on a basis of eligible employees rather than total employees.
- (6) Records that would permit the elimination of the current index records maintained for disciplinary actions.
- (7) Summaries of cooperative employees.
- (8) Identification of employees who need reassignment for more complete utilization of capacity.
- (9) Promotion certificates.
- (10) Certificates of eligibles.
- (11) Comparisons of predicted professional manpower requirements with the anticipated graduates in indicated professions to determine what modifications in recruiting efforts are needed.
- (12) Analysis of grievances and complaints to predict modifications needed to retain competent employees.
- (13) Organizational directories.
- (14) Position descriptions.
- (15) Matching employees to vacancies.

#### 8. Modifications of System as Technology Improves

These procedural recommendations are based on assumptions that may become obsolete in the dynamics of the technology associated with data processing systems. As this system is implemented, integrated data processing equipment, high speed data transmission systems, and optical scanners should be considered. Appropriate modifications of these recommendations then should be made.

### V EFFECT OF ADP ON PERSONNEL OFFICES

The immediate effect on personnel offices of automating certain record-keeping and reporting activities will be a reduction in the total amount of clerical work required and some change in the character of the clerical work remaining. In addition, the time required of supervisors and technicians to direct the efforts of clerical employees will be reduced. They should thus be free to concentrate their efforts on the substantive parts of their program. The system has the capacity to provide to personnel offices and other levels of



management reports that are now required and additional information that is not readily available from the current system.

The major effect on the workload of personnel offices of an automated system will be in report preparation, maintenance and use of employee service record cards, and the preparation of certain forms, such as the Notification of Personnel Action (except for initial appointments) and the Payroll Change Slip. From 70 to 90 percent of regular, recurring reports required by the Department, outside agencies, and the Department agencies will be prepared through the automated system. About one-half the special reports that are now required likewise will be prepared from the new system. Report preparation remaining in personnel offices will be confined largely to that requiring extensive narratives such as Incentive Awards, Safety and Training Reports. Maintenance of the SF-7 (Service Record Card) and related tickler files will no longer be necessary. The information will be included in the automated system as will the suspense file information. Actions to be taken at a certain date will be taken automatically, such as awarding periodic step increases and making appropriate notifications of anniversary dates unless the equipment is instructed not to take the called-for action. Information such as that contained in the present SF-1126 (Payroll Change Slip) will be generated within the system.

Position charts will be prepared for agencies and appointing offices periodically. It will be necessary to update these manually between time of issuance.

The technical functions of personnel offices, such as position classification and placement, will not be effected directly by an automated system at this time. Matching of employees and jobs and classification of jobs are not contemplated in the initial system. However, the automated system will be able to provide personnel offices with data that has not been readily available to them heretofore. Turnover, absentee, and similar analyses can be supplied by unit, job classification, age, or other characteristic. The availability of professional, technical, executive, and managerial employees with identifiable, objective qualifications can be readily determined. (See the Manpower Inventory section of this report for a full discussion of this record and its uses.)

On the personnel office will rest the obligation for accuracy of information fed into the system. From the time information leaves personnel offices until it is entered into the system, it will be subject to only a cursory clerical review and computer edit. The accuracy of the technical aspects of the information will remain the responsibility of the personnel office. It is not anticipated that personnel technicians will be assigned to the Management Data Service Center. Further, personnel offices will need to maintain suspense files for transmittals of information forwarded. Provision to package outgoing material along with item controls and to distribute incoming material will likewise need to be made.

Minimizing clerical operations in personnel offices and maintaining working records at a central location reduces the need for the flexibility built into our personnel management program through the use of personnel offices for each of several agencies in one geographical area. With the new data processing system, it may be feasible to consolidate personnel offices in a given region to service more than one agency. It may even be feasible to consolidate regions. Potential savings from such adjustments with little loss in the effectiveness of personnel operations are significant.

Even if the consolidation of personnel offices is not found feasible, centralized depositories for individual official personnel folders should be considered. Employee record cards, in conjunction with application forms, could be used at operating levels to furnish all of the information needed for the effective management of people.



A further reduction in the clerical workload of personnel offices would be possible if a feasible means of direct inquiry from line supervisors to a data processing system could be worked out. The effect would be to permit the supervisor to have rapid access to information about his employees or prospective employees that is on file in the Center. The middle-man function now proposed for personnel offices would be unnecessary.

The possible applications for modern equipment to furthering effective management of personnel are almost limitless. The manager of tomorrow's personnel offices may be relieved of most, if not all, of the tedious record-keeping that now hampers his efforts to concentrate on furthering the benefits available from a totally restructured and forward-looking personnel program.

## RESULT OF OPERATIONS RESEARCH STUDY

Specific assignments to this group applied to two models. This report covers the first, which involved manpower inventory management. This application area has been identified as Management of Human Resources — MOHR.

The group was to develop concepts of the model, schematics of the computer (7070) run configuration, and a description of the recurring, special and generated reports which could be produced. This has been done.

Cost estimates for research, problem definition, programming, and testing are included in the report of the Cost Group. It is estimated that 2 years will be required to establish the system.

The assignment stated that it should be assumed that reliable tests would be developed to give information on abilities and that an accurate vouchering system would be developed to furnish data on performance. From these two sources it was to be assumed that accurate information would be available on the following:

- General intelligence
- Mental growth (or deterioration)
- Rate of thought processes
- Creativity
- Drive (or energy)
- Ambition (objects or personal goals)
- Relative values
- Regard for others
- Abilities in multiple fields of work
- Sensitivity
- Stability

The Office of Personnel has estimated the cost of developing and maintaining the tests and vouchering system. The Personnel Work Group estimated the costs of preparing and transmitting the data required to up-date the inventory. The costs are included in the report of the Cost Group. The Office of Personnel estimates that the tests and vouchering system can be developed within the 2-year period.

### Management of Human Resources (MOHR)

The Department of Agriculture is a service organization. Its manpower is the main resource upon which management must rely. It is believed that this resource can be simulated in computer programs — then, by scientific methods manpower can be selected and analyzed from computer programs by simulation of projected Department needs. Such a scientific analysis will provide operating and management officials with a valuable management tool — an aid that can be used to improve the management of this valuable human resource, manpower.

### Objectives

The simulation of the manpower resource means the simulation of people — each person as an individual. But an individual is not a static being. As he develops and matures in the business world, his abilities, his personality — the entire man — changes. Therefore, the model of manpower resources must treat each individual as a dynamic, changing personality and capacity. The model must show the personal stature of each individual. A method must be provided to reflect the ever-changing man. A method must also be provided to correct

erroneously defined traits of the individual and to reflect qualities and characteristics not previously recorded, as more reliable measures are developed and validated.

To recognize the individual in the manpower inventory requires testing of the person before entering the Federal Government or soon thereafter. These tests must not only encompass the individual's ability to do the job for which he will be, or has been, hired — but also his personality and interests.

The model of manpower must be able to select people for key positions. By analysis, it should be able to select those best qualified for a position — the optimum combination of personal and professional characteristics, including weighted analysis of special abilities and personality traits required. For example, when a job is to be filled, the model should be fed data with traits of the supervisor. At flexible points, analysis of the supervisor's and applicant's personality traits would be made to increase cooperation and working compatibility. From this evaluation, simulation of the ideal person for the job could be obtained. Management can use the evaluation to choose the person to fill the position of the group scientifically selected.

The need to fill jobs in the Department can be projected for 5 to 10 years. Desirable characteristics for a job will be stated by comparing and evaluating the personal characteristics of employees now in a position. This would provide a valuable aid in the recruitment program of the Department.

### Systems Reports

The system will generate reports for management use as follows:

1. Consideration for Promotion - A report will be generated where analysis shows that an individual has performed in a manner that merits promotion.
2. Consideration for Reassignment - A report will be generated when the analysis shows that an individual should have an assignment change. This report will encompass both individuals who should be placed in other types of work and those who should be retired.
3. Individual Evaluation - The system will maintain test data on each individual. When subsequent tests or effectiveness vouchers indicate a major difference, the variation will be analyzed and a report generated showing the variations and the analysis. Differences found in actual operations from test results for a group will be used as a feedback to evaluate the tests and a report will be generated reflecting the results of this test analysis.
4. Static Personnel - This report will be generated to show individuals who have been in a position for a long time, but who are not making any headway. The program will analyze personality traits, training and ability. This report will show, where possible, a method by which employees can be developed. For example, additional training may be needed.
5. Supervisory Capabilities - As vouchers on individuals are received and entered in the manpower records, an individual's ability analysis will change. A report will be generated when his development analysis shows he has outstanding potential for supervisory work.
6. Physical Condition of Employee - Based on a periodic physical examination, the health of an employee is evaluated in relation to his position. A report



will be generated that will reflect any major change in the physical condition of an employee.

Fixed, or periodic reports could be prepared as follows:

1. Personnel Trends - A statistical report on Department turnover will be prepared. This report will generate a sub-report tabulating turnover by agency, occupation and grade.
2. Projection of Personnel - A statistical analysis and evaluation of turnover will be made. Included in the report will be an analysis of causes of turnover - such as retirement, changes of job type, and health. The results can be used to project turnover in the Department in future years.

Reports will be available on an "Inquiry Basis" as follows:

1. Supervisory Needs - Upon inquiry, groups of individuals will be evaluated, and a listing prepared of those qualified to fill a supervisory position. The program will weight special personal characteristics particularly desired for the job.
2. Supervisory Evaluation - Upon inquiry, the effectiveness of a supervisor in his job will be analyzed and evaluated.
3. Statistical Groupings - Upon inquiry, a statistical analysis of the manpower resource will be made. Trends in manpower usage will be projected. The average age of employees in the Department will be evaluated by agency, by type of work and by grade.
4. Job Descriptions - The evaluation of people doing a certain job can be used to build a job description. This will also establish criteria to simulate the ideal person for the job.
5. Individual's Capacity - Upon request, an employee will be evaluated for a specific job. For example, management may want to know if an employee has potential to do supervisory work.
6. Personnel Group Analysis - An analysis will be made as needed to select a group of individuals with potential to fill a job. This analysis will weight any special characteristics considered desirable for the particular job.

Exhibits V, VI, VII and VIII are samples of the output produced in answer to inquiries addressed to the computer.

Exhibit V is produced in response to an inquiry for "Analysis of Comparative Qualifications". The inquiry asked for five GS-12 Management Analysts with writing ability. The program located only four individuals qualified for the position. The Personnel Group Analysis Summary gives general information concerning the personnel selected. A Personnel Analysis Report for each individual selected will immediately follow this summary (Exhibit VI). The analysis for Harold Jones is given as an example.

Exhibit VII is a sample of the answer to an inquiry for a graphic presentation of GS-12 Personnel Trends. The graph shows personnel changes during the past 5 years and projects changes for the next 5 years. The chart (Exhibit VIII) shows the supporting figure for the succeeding year and the projection for the following year.



## Mathematic Techniques To Be Used

To accomplish the objective discussed in the foregoing paragraphs, several mathematical techniques will be used. Some of these are Boolean Mathematics, Statistical Analysis, and Linear Programming.

These techniques are described in the following paragraphs:

Boolean Mathematics - This is the algebra of language. Words - or inquiries - can be converted to symbols. The symbols can be grouped mathematically to reduce to a minimum the number of interrogations for the inquiries introduced into the program. Many inquiries are expected to be made against the manpower master. By using Boolean Mathematics, many inquiries will be combined into one set of computer instructions which will locate the records needed to answer the inquiries. A simplified example of this would be three inquiries - one for GS-12's with supervisory abilities; one for GS-12's with a specific outstanding characteristic; and the third inquiry for all GS-12's. By this algebraic technique, the programs would be interrogated only once - to locate all GS-12 records. Thus, only one pass of the master would be needed to locate the records to answer the inquiries reducing interrogations from three to one.

Other Mathematics - Other mathematical techniques to be used will provide a method to build, in pyramidal steps, a scientific evaluation of manpower. The base of the pyramid will be a statistical analysis to establish factor correlation and to define the ingredients for specific personality traits.

These traits will be analyzed to establish correlation of personality traits to job performance. The results of the analysis will be used to define the ingredients needed by an individual to perform effectively in a specific job.

Linear programming techniques will then be used to select the best group to fill a specific job or meet a specific need. This technique will evaluate the personality traits and characteristics of the individual with the traits and characteristics needed for the job. For example, performance and tests working in a job will be correlated with personality trait. From this analysis, a job description, simulating the ideal person for the job, will be made. When a request is received for a personnel group analysis for the position, records of personnel qualifying for the job will be selected. By linear programming techniques, the group best suited to fill the position will be selected.

## COMPUTER SCHEMATICS

The Personnel Application Areas ADAM and MOHR use two computers - the 705 III and the 7070. Business type programs will be processed on the 705 III in New Orleans; mathematical programs will be functional on the 7070 in Dallas. With each computer a 1401 will be used for peripheral operations - card to tape, tape to card, and tape to print.

The 705 III computer program schematics and narratives were prepared by the System Design Work Group. The Operations Research Work Group developed the 7070 computer program schematics and narratives. These programs are responsive to the output of the system as developed for current operations and responsive to the Manpower Inventory system developed for future operations.

Much of the information essential to personnel reporting will be maintained within the payroll-ing application, because data common to both payrolling and personnel reporting will be maintained on the Payroll Master tape.

Sometime before the addition of a new employee, a position or vancancy is established. This fact will become a part of the Position and Job Master file. When the vacancy is filled, a SF-50, Notification of Personnel Action, will be entered into the system for establishing the new employee on the Payroll Master. Pertinent data will be taken from this action and transferred to the Position and Job Master. If the information for payrolling and position are not consistent, then a discrepancy report will permit the stopping of payment of salary until the discrepancy is cleared.

Separation of an employee will work in a similar way. As a byproduct of the document entered into the system to stop salary payments, data will again be transferred to the Position and Job Master.

The Position and Job Master, in addition to serving as a cross reference to the payroll operation, will have two functions: First, it will serve as a historical record of position occupancy indicating the periods filled and the periods vacant; second, it will be an organization chart on magnetic tape.

A visual Position Organization Chart will be recreated every time a change occurs; the new chart will replace the old one. Amendments or corrections to existing charts will not be necessary. A limited version of the chart will be prepared periodically for the Congressional Register; it will include only a selected category of the file.

When data is transferred to the Position and Job Master, the payroll application will select information on Civil Service Retirement status and transfer it to the Retirement Master. This file will contain a complete history of activity affecting retirement status. Employees covered under the Social Security System will be reported directly to the Department of Health, Education and Welfare.

For a new departmental employee who has had previous Federal Service, the previous retirement information will be entered in a summarized form. Instead of entering each action separately all previous actions will be combined into one summary record. Subsequent actions affecting an employee, such as promotions and periodic step increases, will automatically up-date this file.

Upon separation of an employee, a SF-2806, Individual Retirement Record, will be prepared for transfer to the Civil Service Commission. An inquiry will produce a similar record for the employee's use without deleting the record from the master file. The SF-2807, Register



of Separations and Transfers, will be prepared concurrently with the SF-2806. The SF-3807-1, Register of Adjustments, will be prepared at the time adjustment or correction actions occur. And the SF-2807-2, Annual Summary - Retirement Fund Transactions, will be prepared annually by the system.

Many statistical reports required by law will be produced. Some examples are (1) Salary Distribution, (2) Occupational Distribution, (3) Military Status Report, and (4) Foreign Allowances. These only serve to illustrate the potential of the system. The ready availability of data will permit preparation of additional statistical reports as need arises.

The reports previously mentioned are related to the payroll and can be derived from the payroll application. Other reports that cannot be derived entirely from the payroll files will also be produced. They include (1) Personnel Trends, (2) Job Trends, (3) Personnel Selections, and (4) Personnel Evaluations.

The part of the system that will provide these reports is similar to an inventory operation. Here, the stock item is manpower primarily the professional, technical, executive, and managerial personnel of the Department. The system may be expanded to include other categories as the need develops.

The input needed for these reports will be similar to a completed SF-57, Application for Federal Employment. Other data, such as supervisory evaluations, progress reports, and test results, must also be entered. Full use of the system depends on the current entry of changes in the "employee profile."

Accumulation of this data will provide the Department with information on a scope not previously available - at least not available within a reasonable length of time.

This system will analyze the current performance in a position and develop standards of performance which may be turned into job descriptions. From the evaluation of successful performance some indication of the most desirable characteristics for replacement will be developed. Thus, replacement selections will be based on successful past performances.

A history of job turnover and job changes will be maintained. Comparing this history and the performance characteristics, the system will develop trends and projections. These projections will indicate the number and type of personnel needed in the future.

On a current basis the data within this system will enable management to find within the Department the best qualified person for a vacancy. Unrestricted inquiries stating the vacancy will generate an analysis of all qualified personnel in the Department. The inquiry may be limited to agency or geographic area. To increase cooperation and working compatibility, the supervisor's personality traits may be considered in the job qualifications.

Management may enter an inquiry into the system for reports on either groups or individuals. The request may also specify a detailed report or summary analysis and evaluation.

Employees will be evaluated by use of mathematical models. As data enters into the system, for either new or old employees, the entire group will be analyzed again to place individuals in correct relationship to one another.

Feedback will be a significant item in this system. Evaluation of performance against predicted performance will be the basis for revising the standards and the relative weighting of data. These differences will also be a basis for evaluating the effectiveness of the Department's testing methods.

In summary the personnel application of the system will reduce the clerical functions now required by providing a mechanized system for reporting the vast statistics on departmental employment. The system also will provide additional management tools in the comprehensive analyses of employee characteristics.





#### NARRATIVE ADAM 040

This program maintains an updated Report Summary Master. This method of report preparation will permit a reduction of over-all processing time. The summarized data taken from the Payroll Master need be created only one time. Subsequently detail change records will be received from the payroll application. Only the activity records will be summarized and added to or subtracted from the previously established summaries.

The first phase of this program will sort the activity into report sequence. The third phase will merge the activity and update the master.

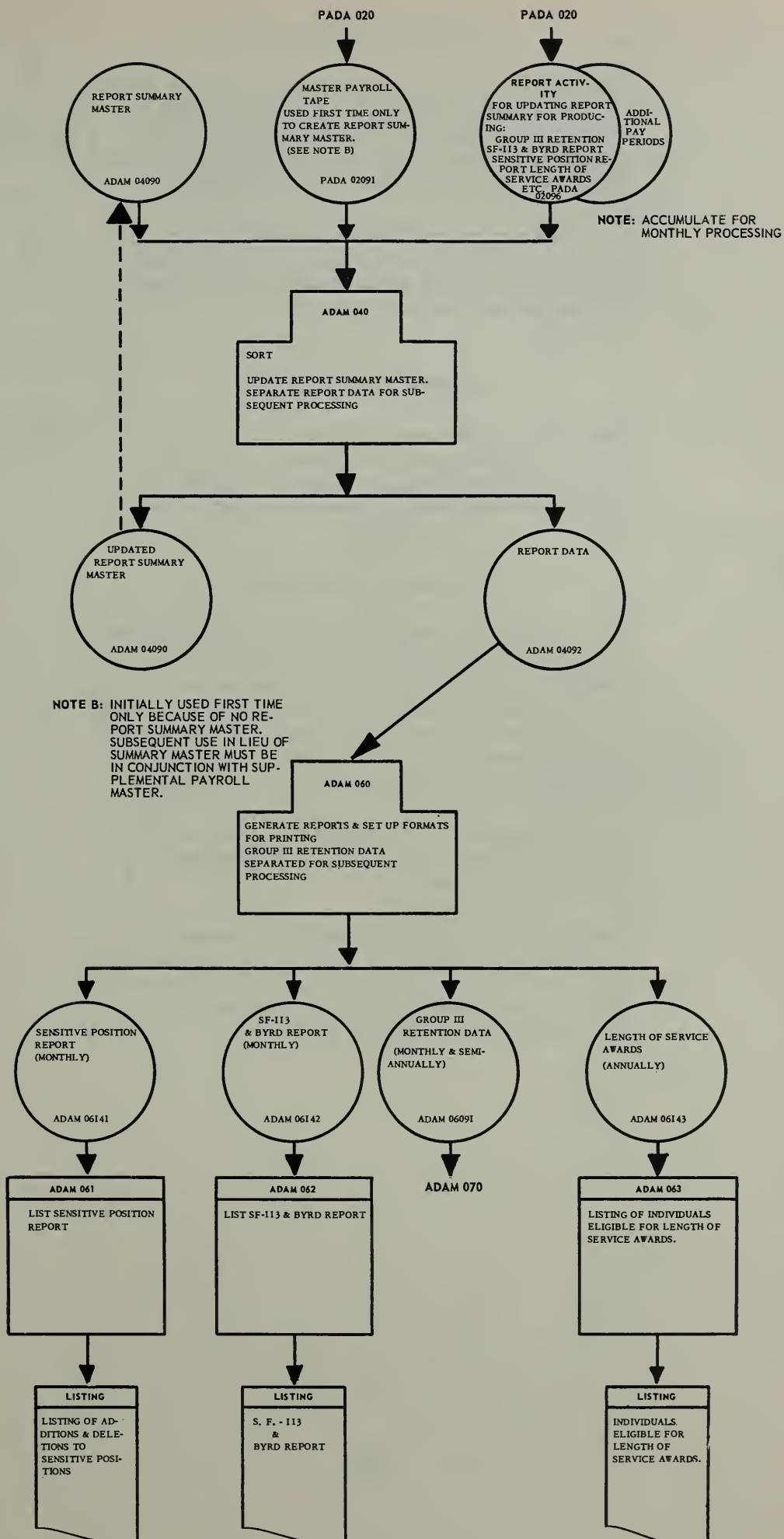
The Report Summary Master also will retain the data which is to be reported annually. By use of an alteration switch the program will be modified annually to write out all accumulated data such as Length of Service Awards.

The report data (ADAM 04092) output will be used as input to ADAM 060.

#### NARRATIVE ADAM 060

This program will separate the data on the report data tape. In the process of separating the data the format of the records will be rearranged into the desired print format for outputs that are completed at this point.

The Group III Retention data (ADAM 06091) requires further processing. This tape will be used as input to ADAM 070.



#### NARRATIVE ADAM 070

The Cumulative Retention Master (ADAM 07090) will be updated monthly by the current data on the ADAM 06091 file. The job titles (ADAM 05921) will be matched with the activity to complete the record for report preparation.

Accumulated hours from the activity records are added to the master tape. A report tape (ADAM 07141) will be prepared in print format for listing the current report.

#### NARRATIVE ADAM 080

The input to this program contains data affecting the Position and Job Master. This program sorts the data into position number sequence for the updating process in ADAM 090.

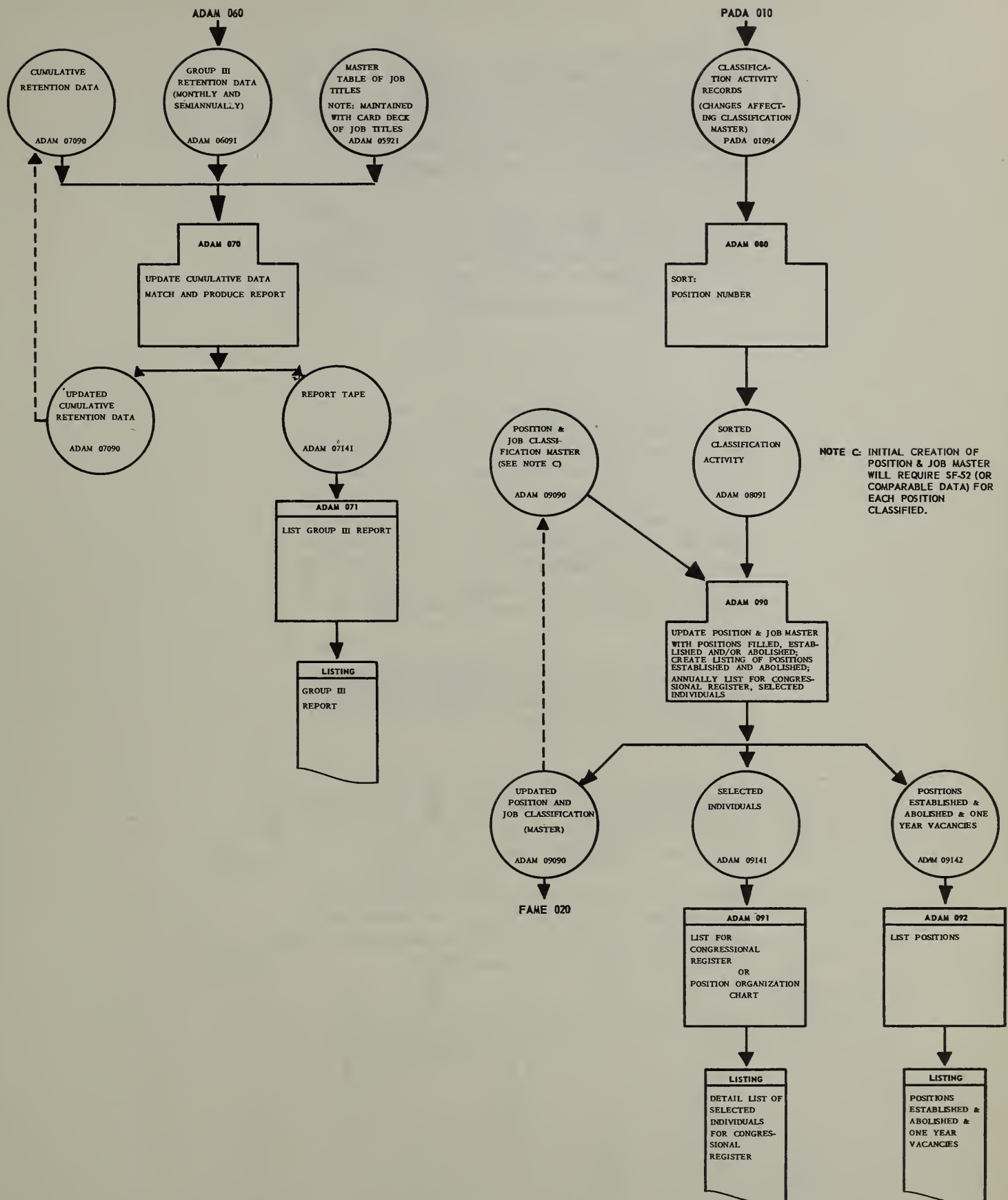
#### NARRATIVE ADAM 090

This program accepts the sorted classification activity (ADAM 08091) and the Position and Job Master (ADAM 09090). The program will record on the updated master the name of the individual filling a vacancy or will remove the name in the case of a separation. The effective date of such action will be recorded also.

Any change in the occupancy of a position will cause the program to create a new position organization chart.

Periodically during the updating process the program will produce a listing of employees for the Congressional Register. Also a register of positions established and abolished will be prepared during the updating process.





#### NARRATIVE ADAM 100

The payroll application will create two files affecting the Retirement Master. One file (PADA 02094) will be generated as a result of payroll processing. The other file (PADA 01092) will include all data not related to payroll processing, such as inquiries and corrections.

This program will merge all the accumulated tapes in Social Security Number sequence. These activity tapes may be accumulated over a period of time coinciding with the reporting requirements.

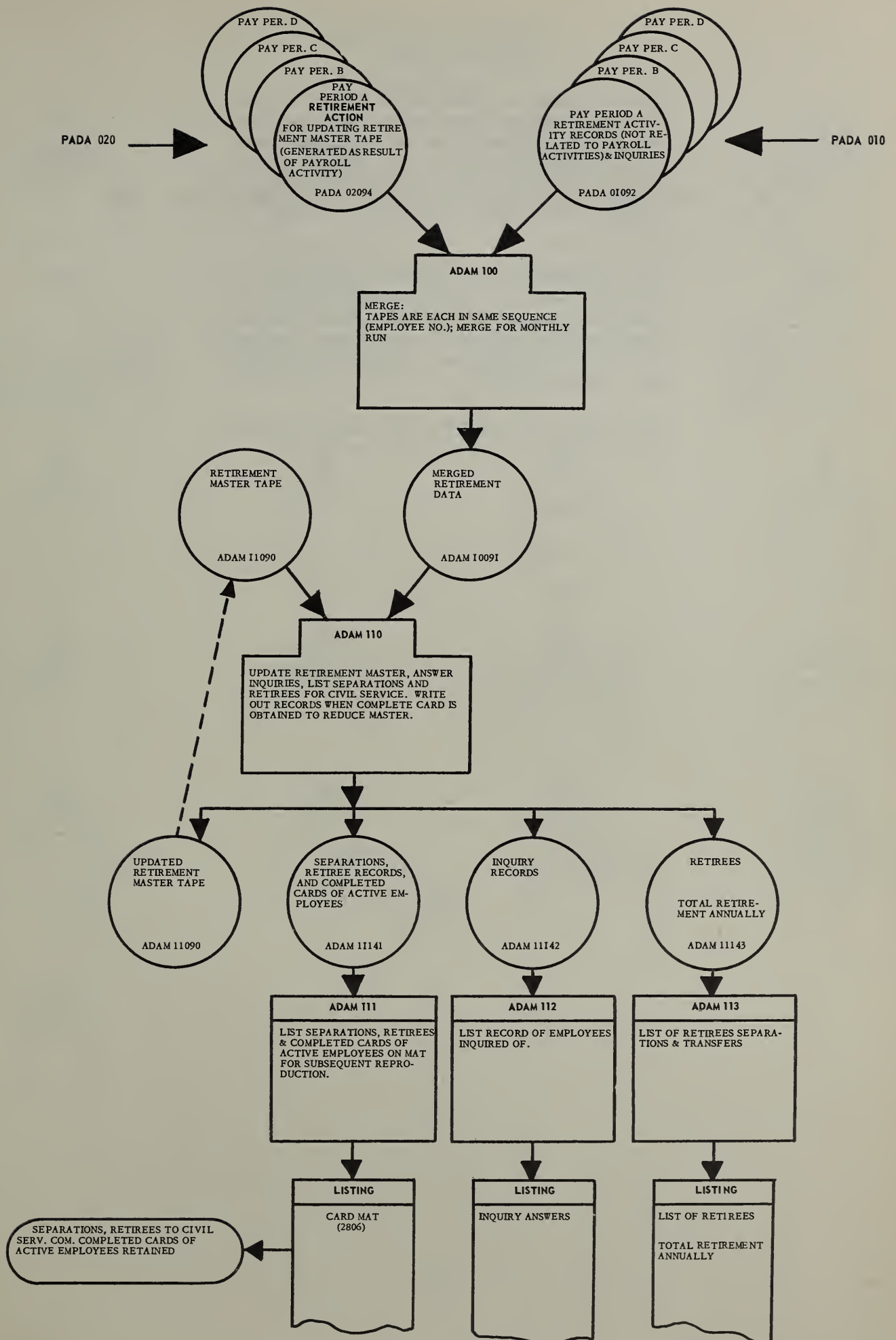
#### NARRATIVE ADAM 110

This program will update the Retirement Master (ADAM 11090) tape. This file will contain the accumulated retirement records of active employees under the Civil Service Retirement Act. When the master tape contains 20 actions for one employee a SF-2806, Individual Retirement Record, will be prepared. This will reduce the amount of data maintained on the tape. A summarized record of the deleted actions must be maintained, however, to answer inquiries.

The inquiry records file (ADAM 11142) will contain all the data required for answering an employee's questions about his retirement status.

A SF-2806 (ADAM 11141) will be prepared currently as the actions occur for all persons separated or retired. These forms are then forwarded to the Civil Service Commission.

Annually the master file will be purged of the accumulated data pertaining to retirements during the year. This list of retirees (ADAM 11143) will be printed in a 1401 operation.



NARRATIVE ADAM 500,  
510, 520, and 530

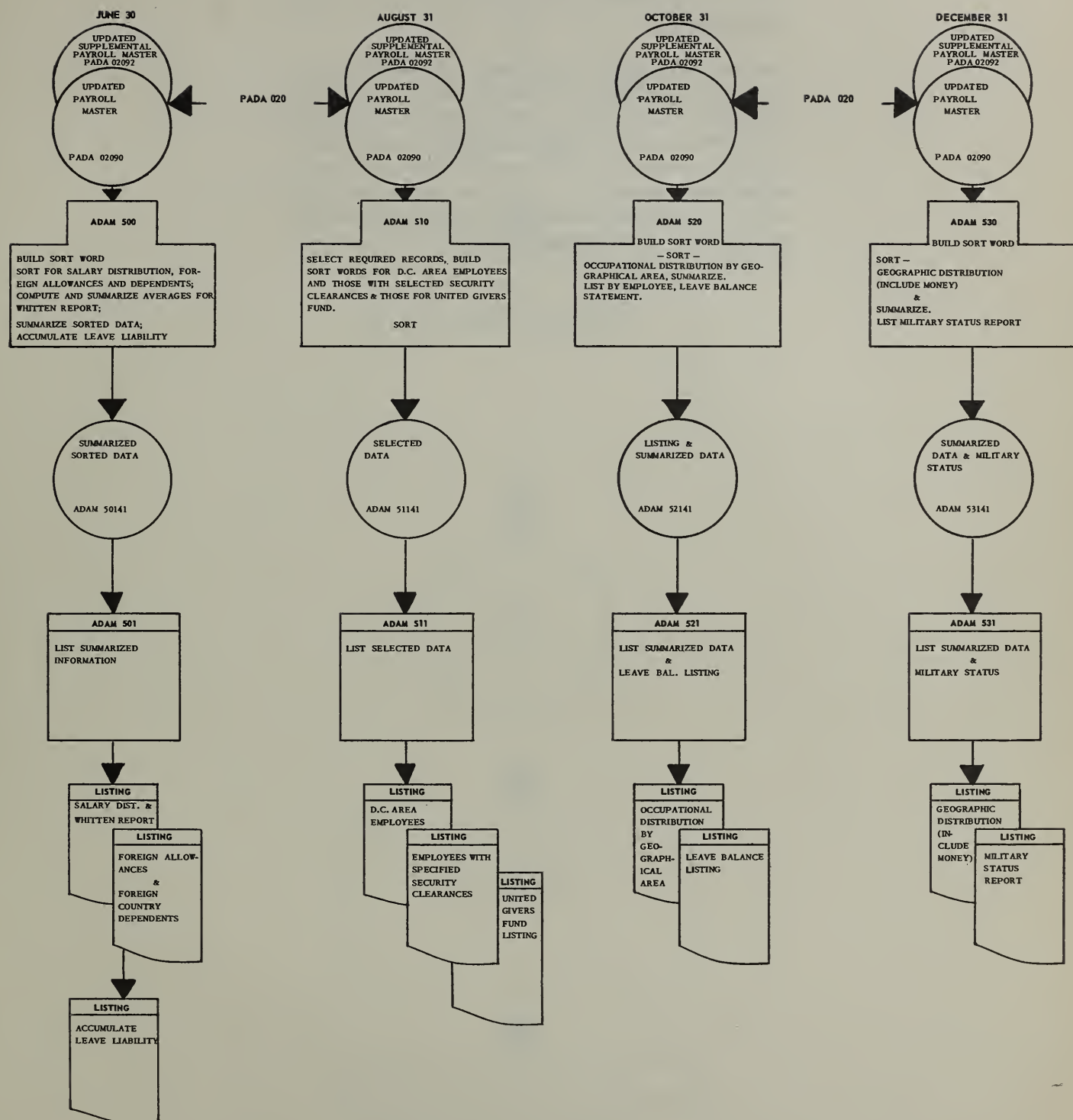
The four programs illustrated represent the currently defined requirements for reporting. The Master Payroll tape and the related Supplemental Payroll Master for any one period will contain a record for all employees who are or have been employed during the calendar year.

The basic technique employed in these programs is that of modifying the sort program. The first phase of the sort will select the desired data and construct a sort word to precede each record. The records are then sorted in the desired sequence.

The chart on the opposite page illustrates some of the reports that may be produced.



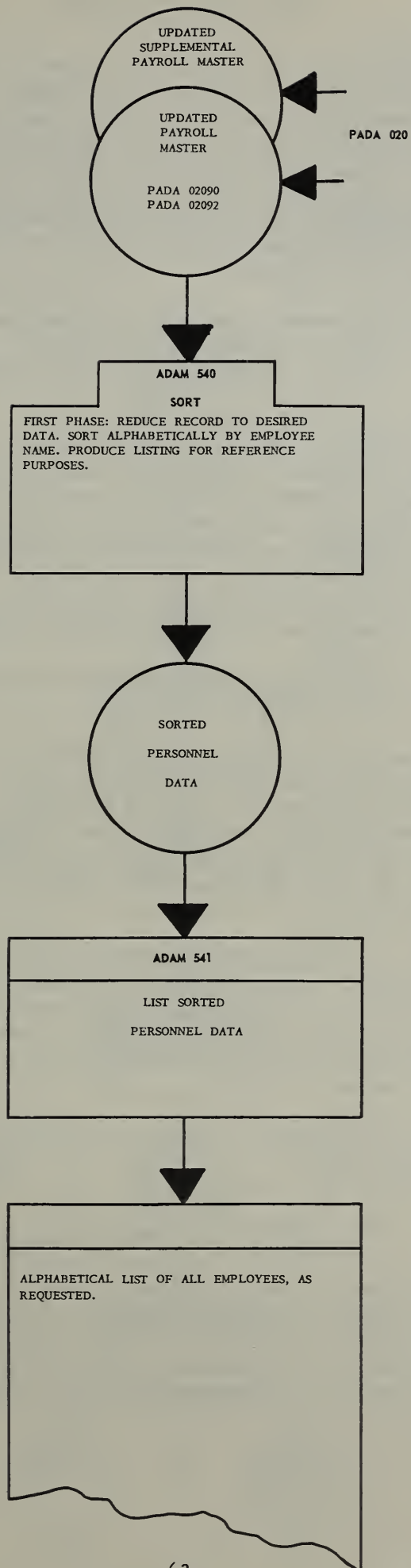
# ANNUAL RUNS



## NARRATIVE ADAM 540

This program will use the same input and the same technique as for the previously described annual runs.

The purpose of this program will be to provide a cross reference list (Name and Social Security Number) for the clerical staff. This eliminates the need for maintaining such a file by manual methods. Only current activity need be maintained manually. As soon as the current activity becomes voluminous this program will produce an updated list. All previous records may then be destroyed.



## NARRATIVE MOHR 010

MOHR 010 is the initial 7070 computer program. All types of inquiries previously placed on tape through an editing card-to-tape operation will be sorted. The input (MOHR 00921) will contain only inquiries that have been edited for proper format and found to be acceptable. Improperly prepared inquiries will have been rejected and documented for correction and subsequent re-entry.

The input records are sorted as follows:

1. Major - Family Code (2 digits)
2. Minor - Specialization Code (3 digits).

This sequence places the inquiries in a relative file for further analysis in the next computer program. Additionally, after the sequence has been established, this program will assign serial numbers to the inquiries to facilitate matching the inquiry to the record sought. After this assignment, the records are separated into two output files as follows:

1. Inquiries to Personnel Master (file MOHR 01092).
2. Inquiries to Personnel History Summary (file MOHR 01091).

Because of the nature of the inquiries, certain types will require information for a file containing detailed data for each individual (Personnel Master), while other types will require information from a file containing summarized data for each individual (Personnel History Summary).

This separation allows only those inquiries relating to a specific source of information to be used as an input to interrogate that particular source. This facilitates the programming of the mathematical program that uses this output.

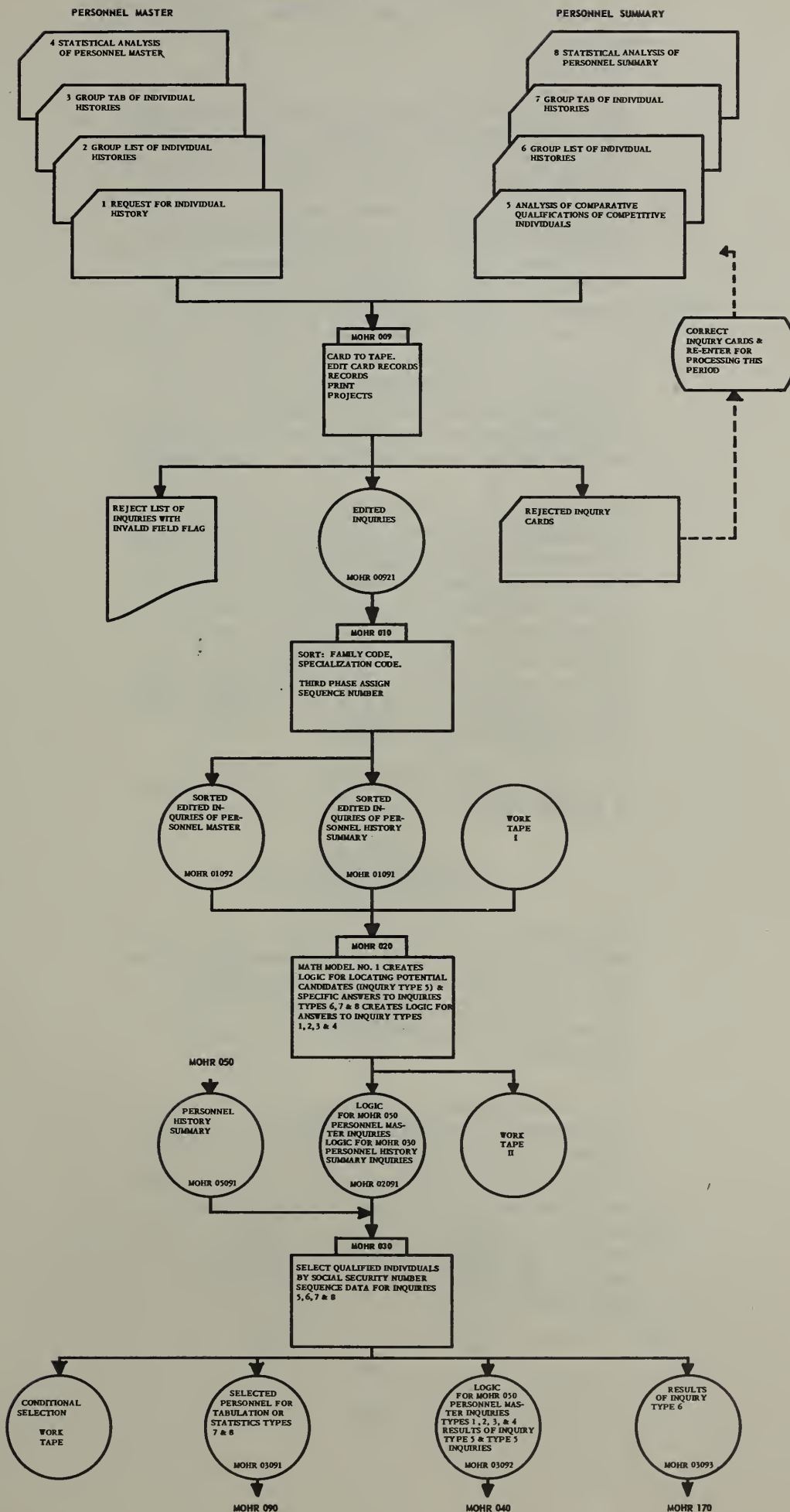
These two output tapes will be read serially by MOHR 020.

## NARRATIVE MOHR 020

This program uses Boolean Algebra to create the logic and optimize routines for locating records to be considered in answering the inquiries. These routines, specifically generated for the use of subsequent programs, allow for a



# INQUIRIES BY TYPE AND SOURCE OF DATA



mass of inquiries to be processed against the master files in one pass and thus minimize the time required to search the files for the desired data.

As sequenced inquiries are read into the computer, the program establishes the parameters required for each. After all inquiries are read and after determining the boundaries within which all arguments must operate, a series of related instructions are generated that will then be written out for later use as routines in other programs. Separate routines will be created for different types of inquiries as described in MOHR 010. For example, a request for analysis of comparative qualifications of competitive individuals would require a different generated routine than would be required for an inquiry for statistical analysis of information on the Personnel History Summary File.

These specific instructions that form the several routines are written in the same order on the output as were the inquiries on the input. That is, inquiries that relate to information needed from the Personnel Master will be processed first and the necessary routines created and written on the output before processing the inquiries and producing the necessary routines that relate to the Personnel History Summary file.

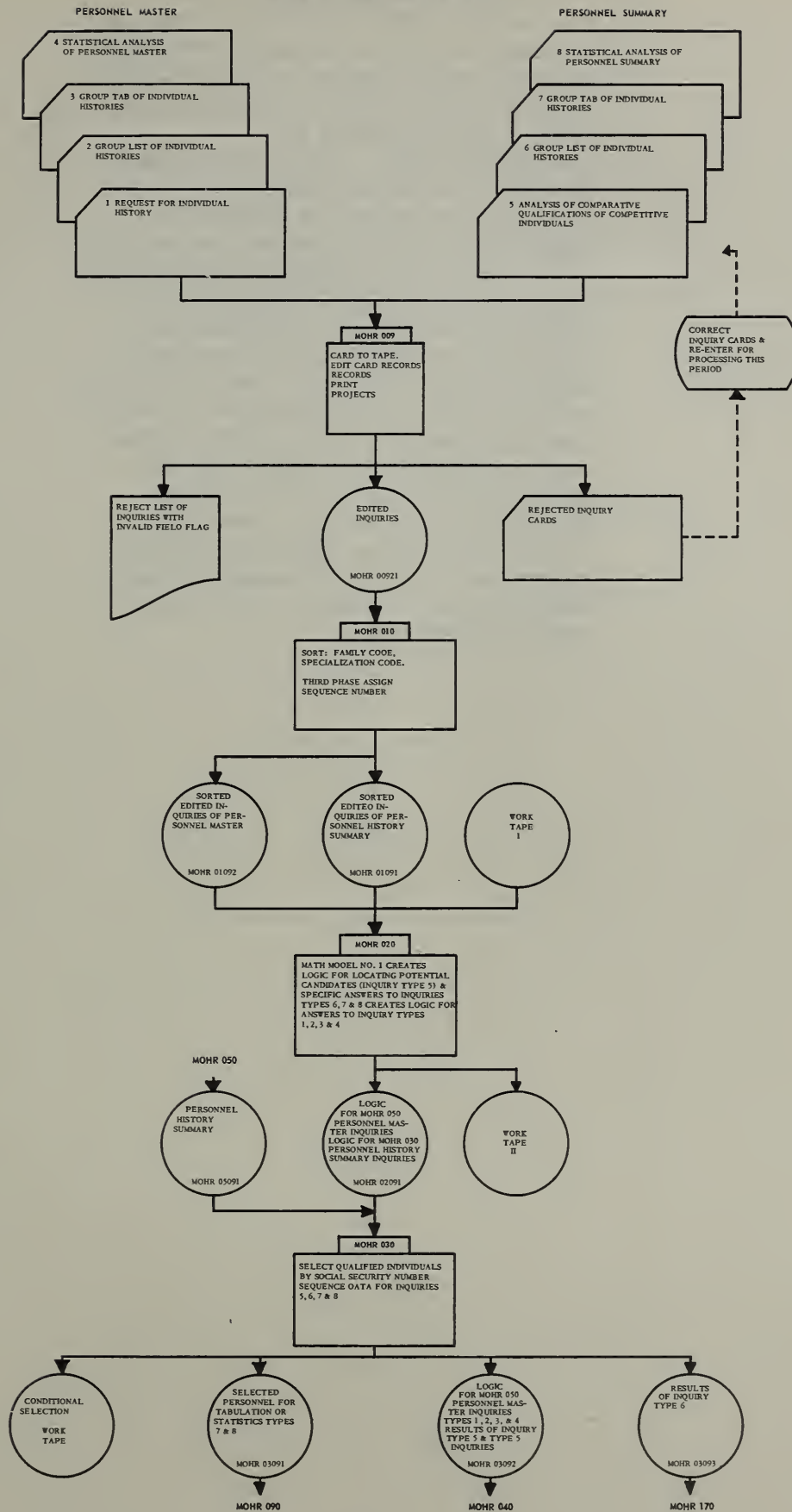
The output, file MOHR 02091, is used as input to MOHR 030.

#### NARRATIVE MOHR 030

This program utilizes the routine created in MOHR 020 that relates to information required from the Personnel History Summary file. Two inputs are needed, the Personnel History Summary tape and the routines created in MOHR 020.

The routine needed in this program is read into memory and the other routine is read and passed to an output tape for later use. The Personnel History Summary is then searched, and selected records that meet the requirements for the various types of inquiries are written on separate output tapes in Social Security Number sequence, for subsequent programs.

# INQUIRIES BY TYPE AND SOURCE OF DATA

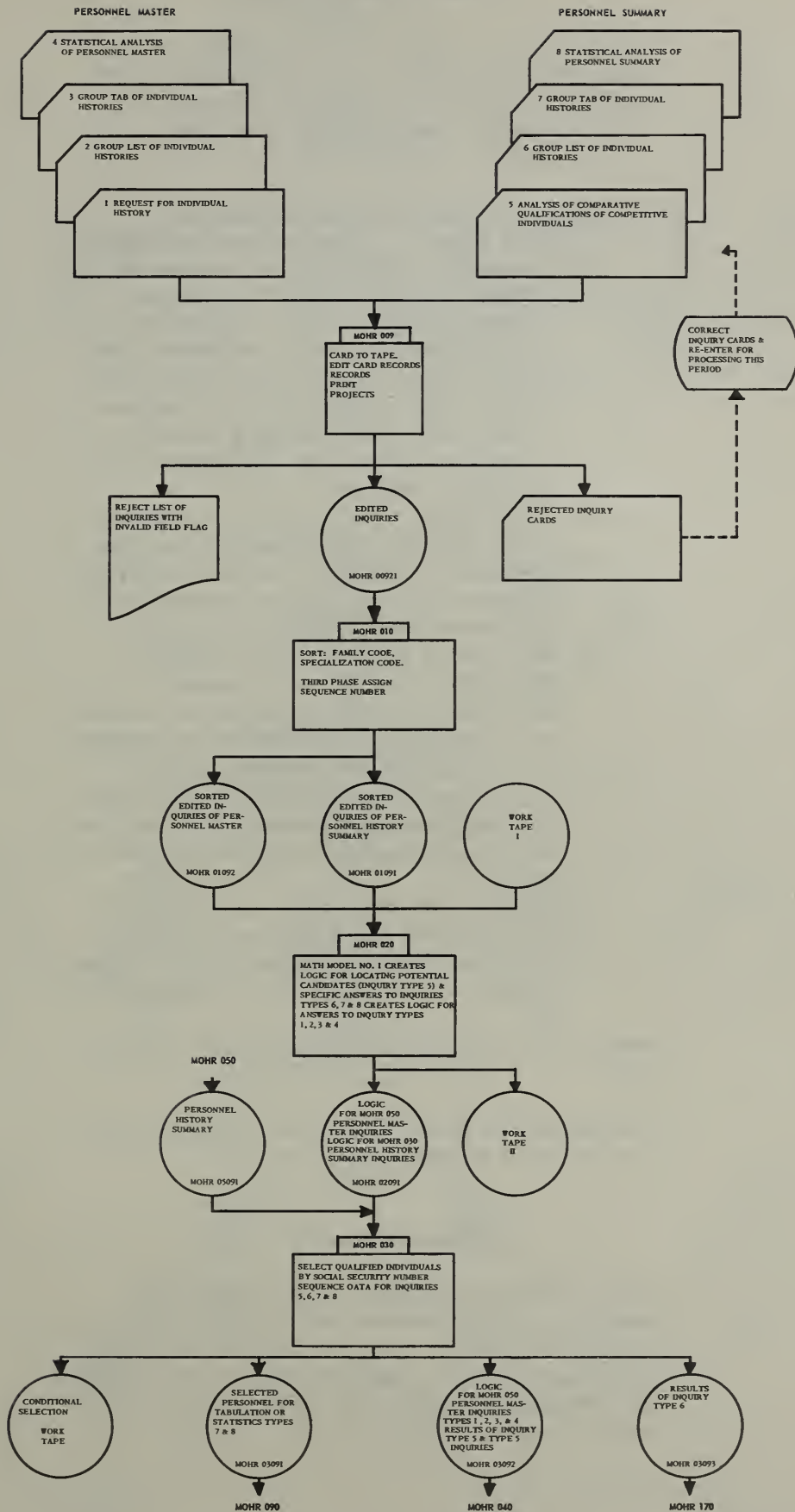


These outputs and contents are as follows:

1. File MOHR 03091 - All selected records of personnel for use in making statistical analyses of information on the Personnel History Summary tape. This tape will be used as input to MOHR 090.
2. File MOHR 03092 - The first records on this tape are the instructions that form the routine to be used in MOHR 050, followed by inquiries relating to the Personnel Master for individual history listings, group list of individual histories, tabulated summaries of individual histories, and statistical analysis of information on the Personnel Master file. Results of analysis of comparative qualifications of competitive individuals are the last records on this output. This tape will be used as input to MOHR 040.
3. MOHR 03093 - This file contains the answers to inquiries for group lists of individuals from the Personnel History Summary file. This tape will be used as input to MOHR 170.



# INQUIRIES BY TYPE AND SOURCE OF DATA



## NARRATIVE MOHR 040

This program is a sort that combines and sequences various data from other computer and auxiliary operations. The sort sequence is:

1. Major - Social Security Number
2. Minor - Record Code

The inputs may be any of the following:

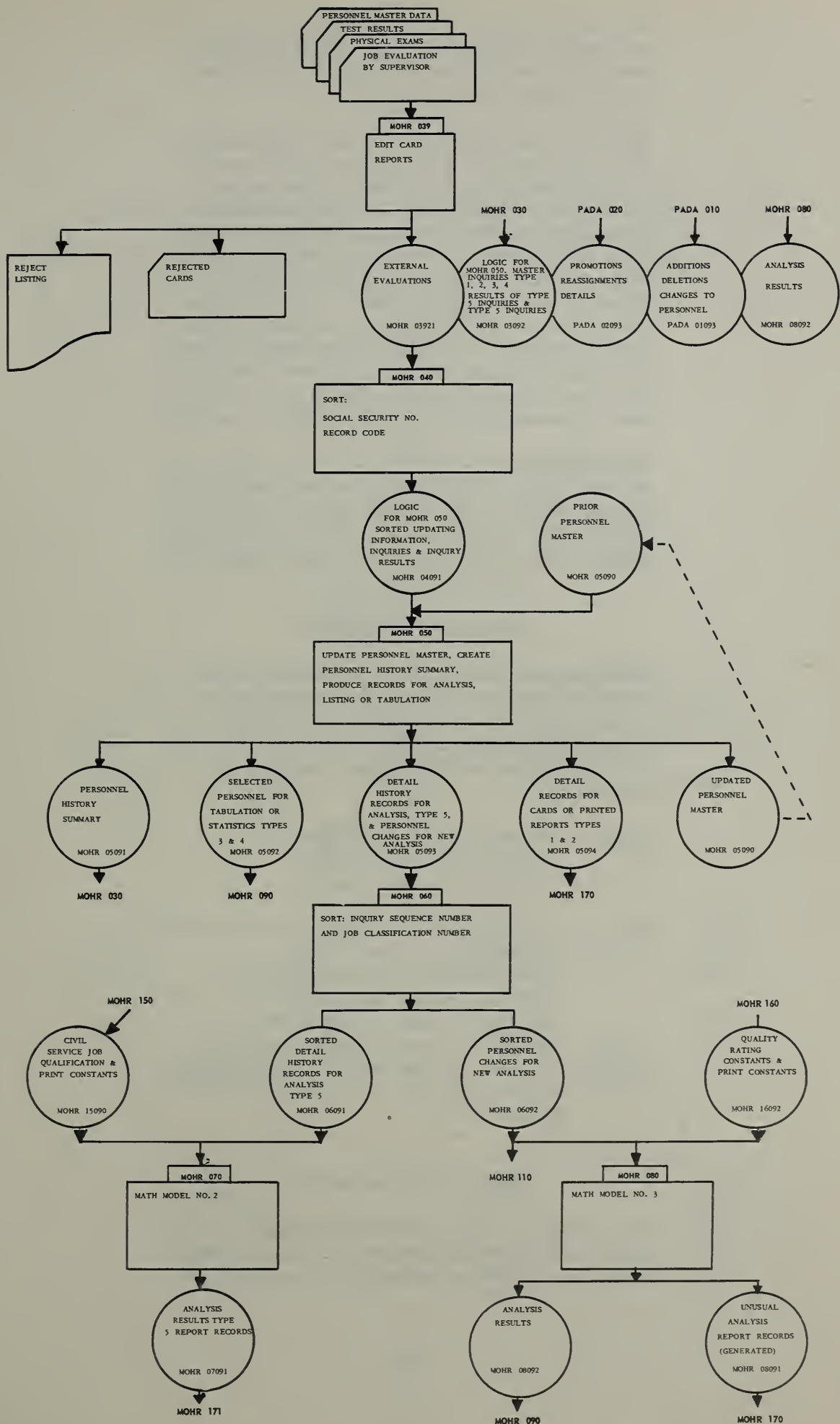
1. File MOHR 03092 contains the routine created in MOHR 020, to be used in MOHR 050, plus other records described in MOHR 030. This routine is in the form of records. However, the sort word is constructed so that this routine will sort intact to the beginning of the output tape and be available readily to MOHR 050. This input must always be present.
2. File PADA 02093 contains changes that affect the Personnel Master records and were created as a result of payroll processing programs, for example, generated Periodic Step Increase.
3. File PADA 01093 contains changes that affect the Personnel Master records and were separated or created from the input to the payroll programs.
4. File MOHR 03921 contains card-to-tape edited additional or updating data for the Personnel Master; for example, results of physical examinations or tests.
5. File MOHR 0892 - Analysis results from MOHR 070 which must be fed back into this sort for use in recording these results on the Personnel Master.

Some or all of inputs 2 through 5 may be present.

The sequenced output from this program will be used as input in MOHR 050.

## NARRATIVE MOHR 050

MOHR 050 is the program that receives the Boolean Algebra routine generated in MOHR 020 and uses it in processing inquiries for the Personnel Master. Additionally, the Personnel History Summary file is created and the Personnel Master is updated.



The inputs to this program are always the output from MOHR 040 (MOHR 04091) previously described and the Personnel Master file from the last update run.

First, the program reads in the routine specifically created for this process and places it in its proper place in memory. The sorted records from MOHR 040 are merged with the Personnel Master; and, since the updating information precedes the inquiry, the Personnel Master would be updated prior to selection. Those records selected will be written on the listing output (MOHR 05094), tabulating output (MOHR 05092) or analysis output (MOHR 05093) for subsequent programs. The Personnel History Summary file (MOHR 05091) is created and the Personnel Master (MOHR 05090) is updated.

MOHR 05092 will be used as input to MOHR 090  
MOHR 05093 will be used as input to MOHR 060  
MOHR 05094 will be used as input to MOHR 170  
MOHR 05091 will be used as input to MOHR 030  
MOHR 05090 will be used as input to MOHR 050

#### NARRATIVE MOHR 060

This program is a sort. It uses as input the output from MOHR 050 (MOHR 05093) which contains detail history records for analysis of comparative qualifications of competitive individuals and personnel changes for subsequent analysis.

These records are sorted as follows:

1. Inquiry sequence number
2. Job classification number

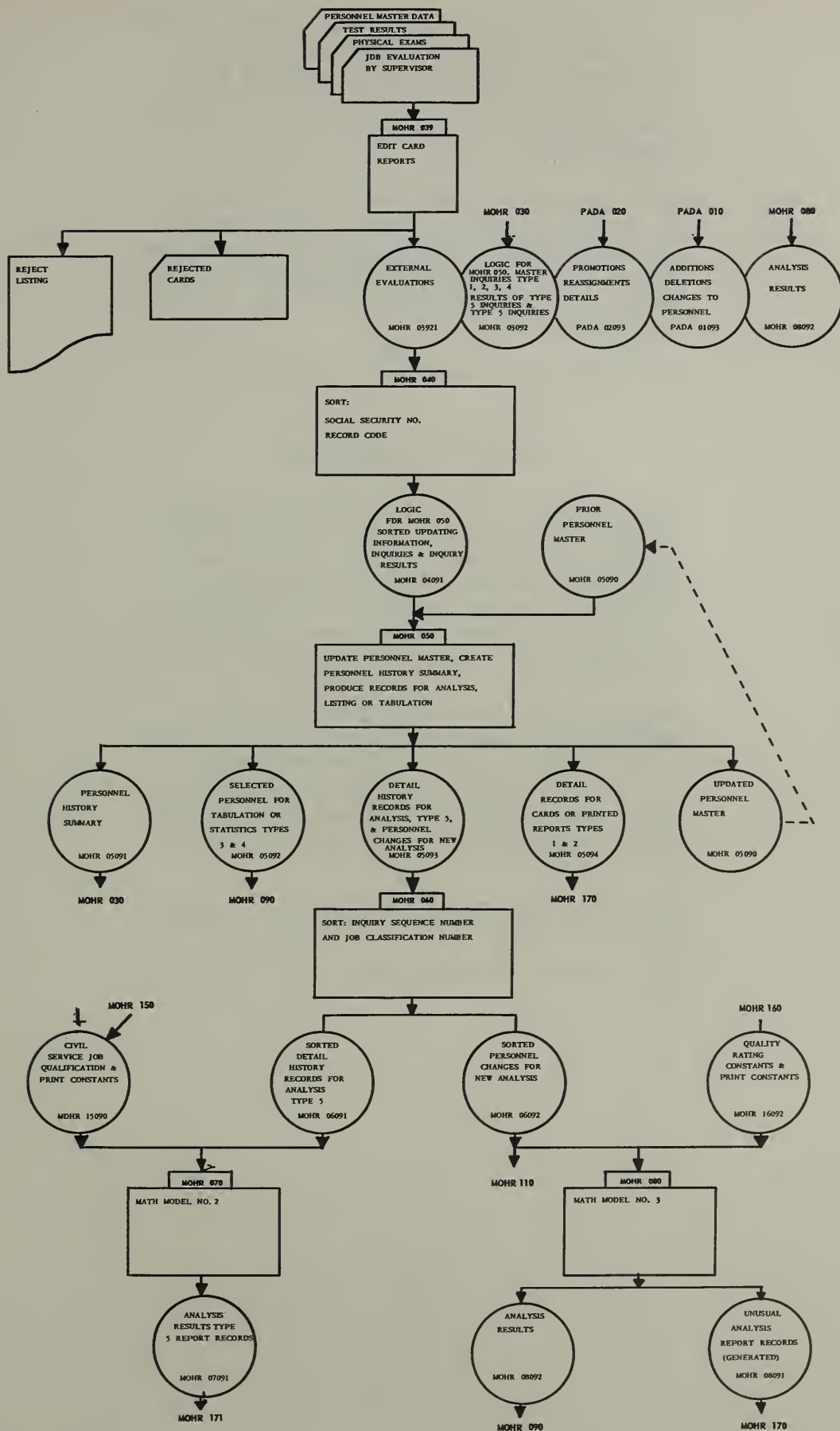
After sorting these records, this program separates the output on two files:

1. Sorted detail history records for analysis (MOHR 06091). This file will be used as input to MOHR 070.
2. Sorted personnel changes for new analysis (MOHR 06092). This file will be used as input to MOHR 080 and MOHR 110.

#### NARRATIVE MOHR 070

This program is the second mathematical model in the normal production processing. It will use linear programming techniques to evaluate the





individual personality traits of the potential personnel against job performance standards to optimize the Personnel Group Analysis selection. The linear programming model used will be a generalized routine which will also be used in MOHR 080.

The Civil Service Performance Standards for the job will be input file MOHR 15090. The potential personnel selected from the Personnel Master will be input file MOHR 06091. The output produced, MOHR 07091, will be the results of the analysis.

This will be input to MOHR 171 for print-out.

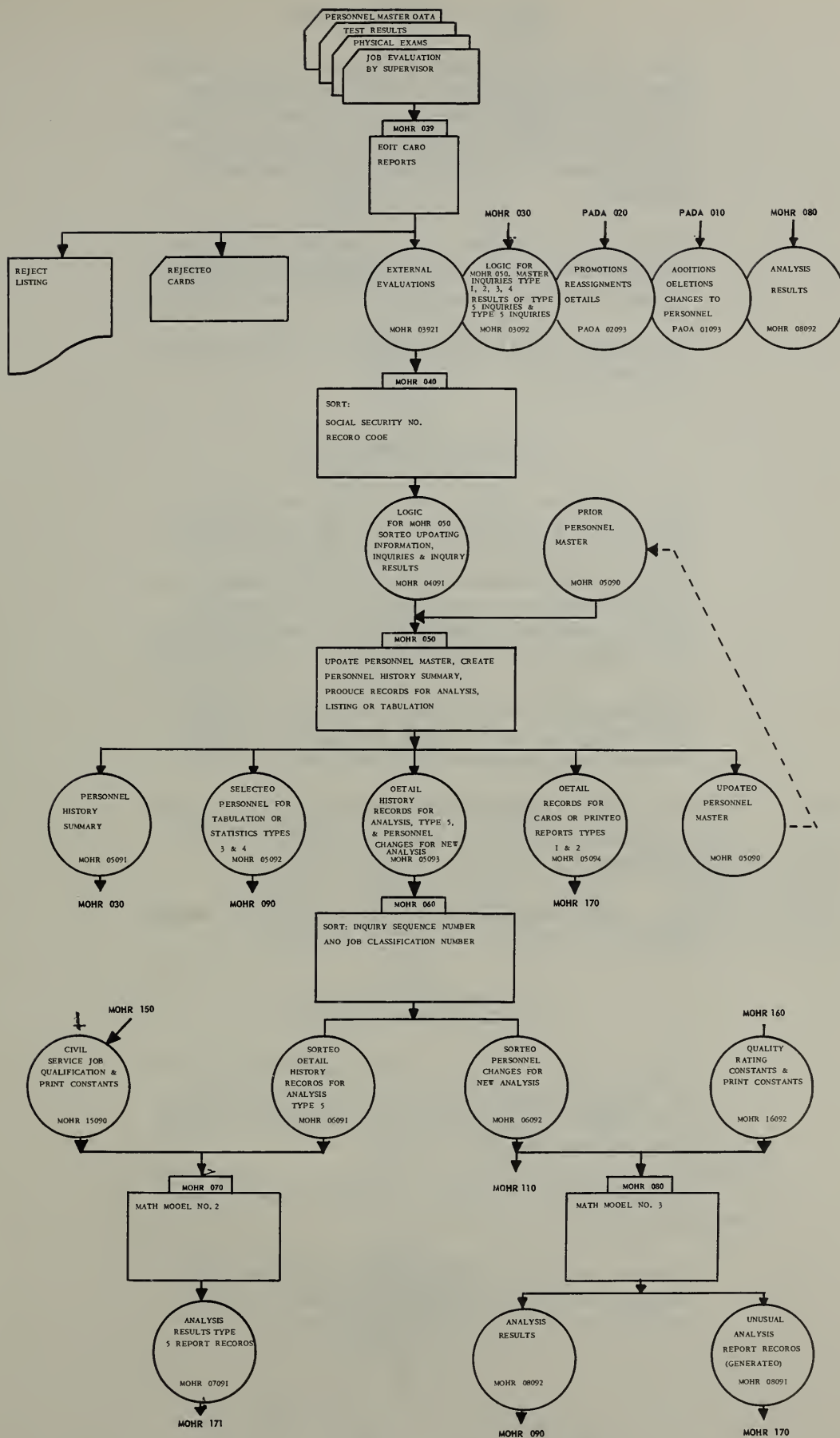
#### NARRATIVE MOHR 080

This program is the third mathematical model in the production processing. It will use linear programming techniques to evaluate the employee test results against personality trait qualities to establish the characteristics of the employee. This will be the same linear programming routine used in MOHR 070.

The Quality Rating constants will be input - MOHR 16092. Each Personnel Change on MOHR 06092 will be analyzed. File MOHR 08091 will be a generated report of personnel with unusual quality traits. MOHR 08092 will be the analysis results of each individual for updating the Personnel Master.

Output file MOHR 08092 will be input to MOHR 040.

Output file MOHR 08091 will be input to MOHR 170.



#### NARRATIVE MOHR 090

This program is a sort that uses as input MOHR 03091 and MOHR 05092. Both of these inputs contain records previously selected as a result of inquiries and relate to both Personnel History Summary records and Personnel Master records.

These are sorted in inquiry sequence number in order that types of inquiries can be grouped together for the subsequent statistical analysis.

The output (MOHR 09091) will be used as input to MOHR 100.

#### NARRATIVE MOHR 100

This program accepts sequenced records of previously selected personnel as input (MOHR 09091) and, based on the requirement of the inquiry, tabulates the identical groupings for reports. In the event that projections are desired, statistical analysis can be made and results written after the tabulation records.

A work tape is used in this program to facilitate grouping and to allow temporary storage for multiple analysis requirements.

The output (MOHR 10091) will be sent to a 1401 program for edit and printing of the desired reports.

The output (MOHR 10092) will be input to MOHR 160.

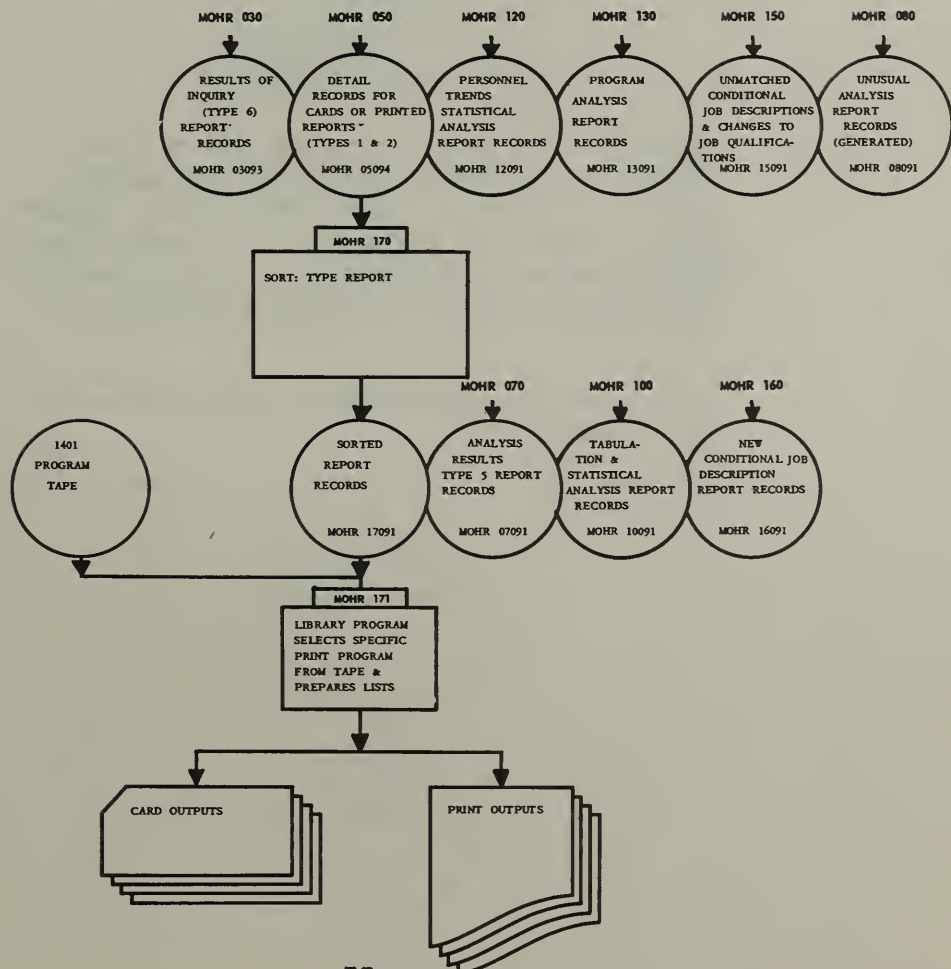
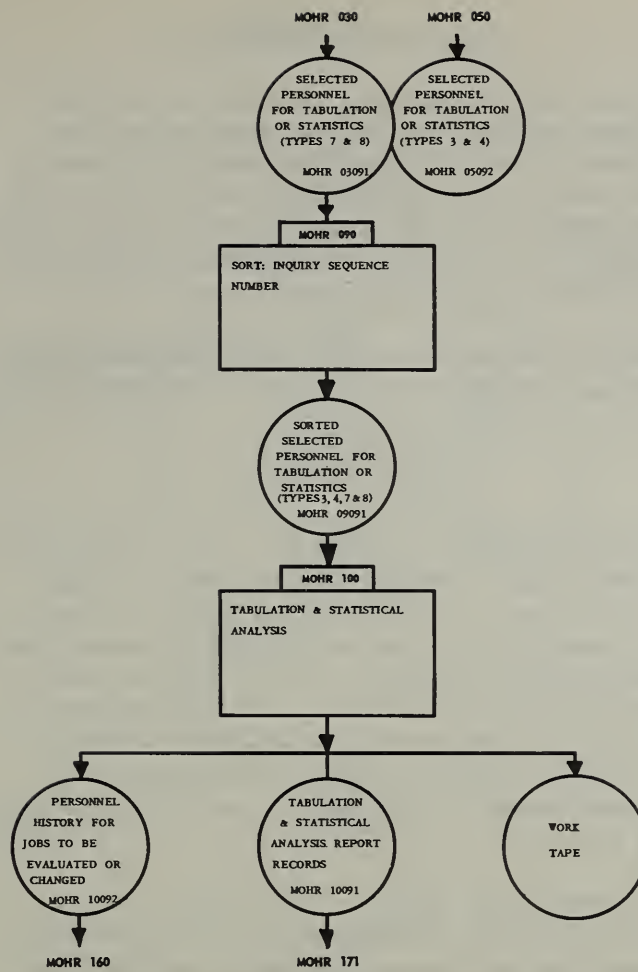
#### NARRATIVE MOHR 170

This program is a sort which separates records by type of report. It uses reels from MOHR 030, MOHR 050, MOHR 120, MOHR 130, MOHR 150, and MOHR 080 as input.

It may be used to sort all of these files or any one file.

Sorted output file MOHR 17091 contains print reports and cards from the various computer operations to be printed and punched.





#### NARRATIVE MOHR 110

Requests for statistical analysis of personnel trends may be entered into this program by means of cards which pass through an editing and card-to-tape operation prior to entry. The acceptable requests, together with any personnel changes for new analysis (MOHR 06092), will be sorted by type of personnel change.

Output file MOHR 11090 (Sorted Requests and Changes) will be used as input to MOHR 120.

#### NARRATIVE MOHR 120

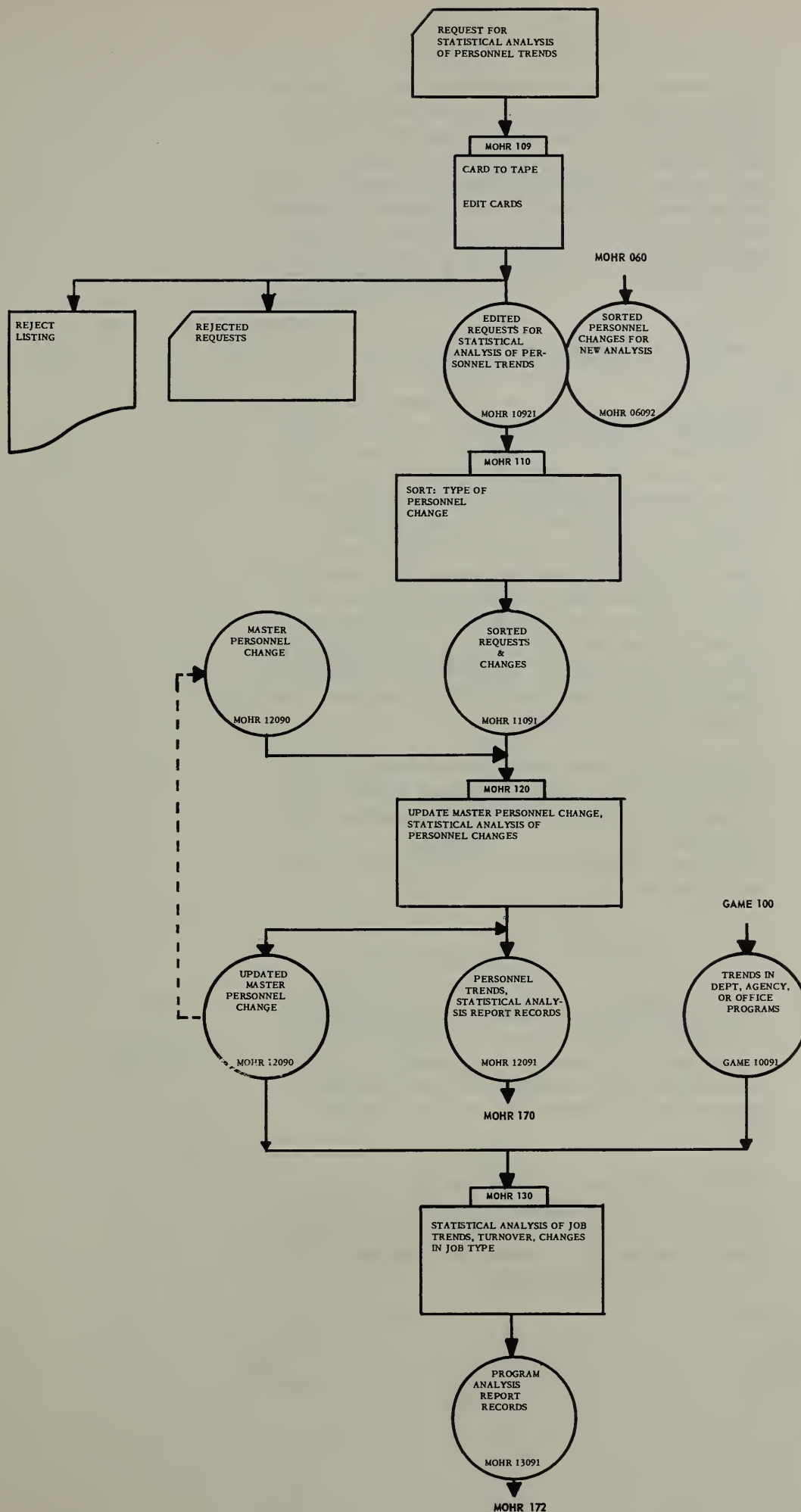
This program will update the Master Personnel Change tape. The Master Personnel Change tape will be maintained in the form of a statistical analysis. It is planned that one generalized and statistical analysis routine will be used in MOHR 120 and MOHR 130. In this program, the answers to inquiries from MOHR 110 will be obtained. Upon request, it will provide personnel trends and statistical analysis reports for print-out.

The output, file MOHR 12091, will be used as input to MOHR 170; file MOHR 12090, the updated Master Personnel Change, will be input to MOHR 120 and MOHR 130.

#### NARRATIVE MOHR 130

The updated Master Personnel Change from MOHR 120 and trends in Department, Agency, or Office Programs from GAME 100 are used to make a statistical analysis of job trends, turnover, changes in job types, etc. A Program Analysis Report record is prepared for print-out.

The output file MOHR 13091 will be used as input to MOHR 170.



#### NARRATIVE MOHR 140

Job descriptions and approvals and rejections of job description changes may be entered into this program by means of cards which pass through card-to-tape and editing operations before entry. Job descriptions and approvals and rejections of job description changes, together with unmatched conditional and new conditional job descriptions, are sorted by job classification number. This will be input to MOHR 150.

#### NARRATIVE MOHR 150

This program will maintain a master tape of Civil Service Qualifications. The input MOHR 14091 will contain the job descriptions, additions, approvals, and rejections. New conditional job descriptions are matched with approvals or rejections of job descriptions. Matched approved changes and additions to Civil Service Job Qualifications are used to update the master tape. Unmatched items are entered on the unmatched conditional job descriptions and used as input to MOHR 140. The unmatched conditional job descriptions and changes to job qualifications are used as input to MOHR 170 for print-out.

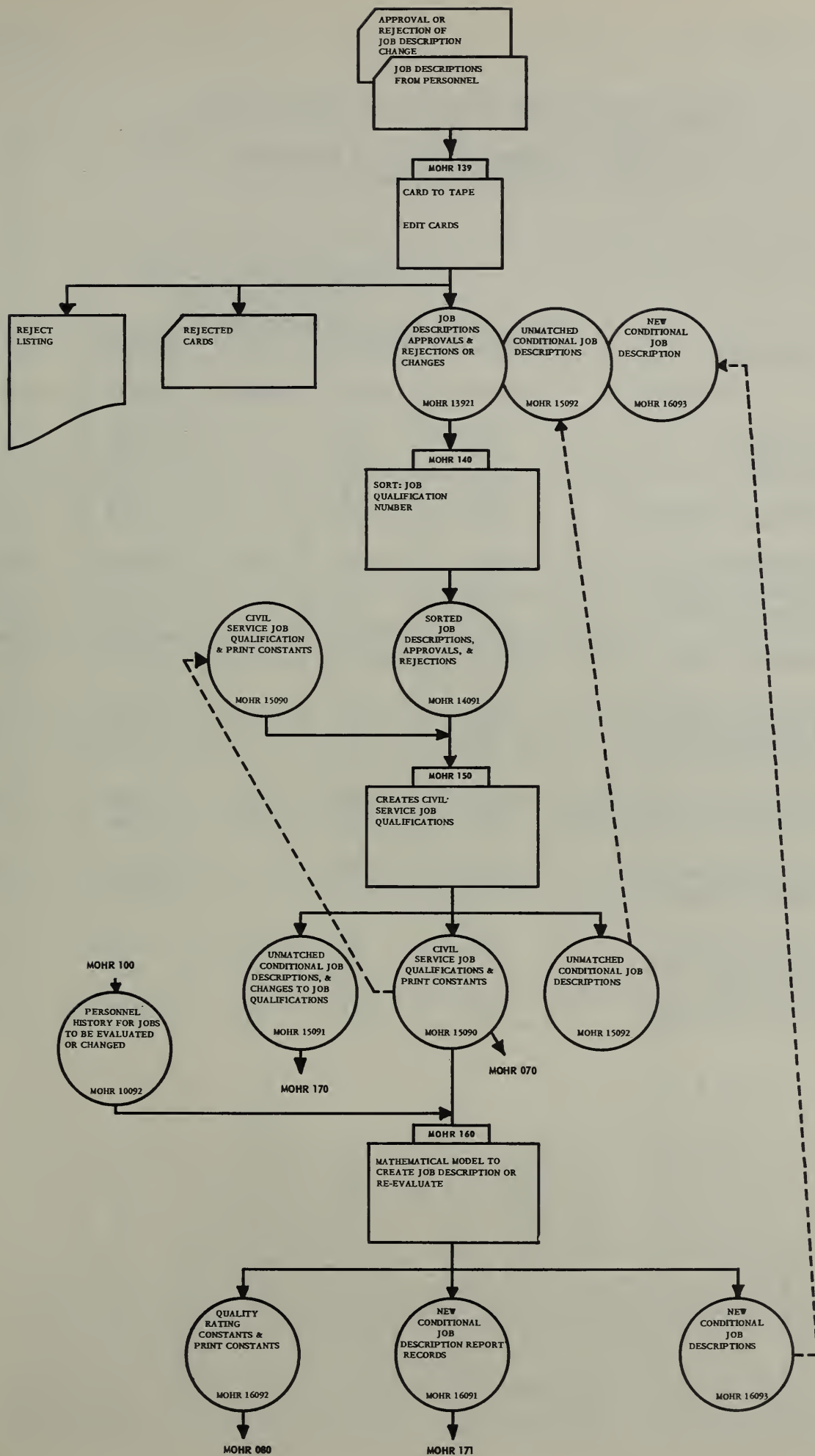
Output File MOHR 15090 will be used as input to MOHR 150 and MOHR 070 and MOHR 160. Output File MOHR 15091 will be used as input to MOHR 170. Output File MOHR 15092 will be used as input to MOHR 140.

#### NARRATIVE MOHR 160

MOHR 15090, Civil Service Job Qualifications, and MOHR 10092, personnel history for jobs to be evaluated or changed, are used as input to MOHR 160. This is a mathematical model to generate job descriptions or to re-evaluate jobs.

MOHR 16093, new job descriptions or re-evaluated job descriptions, is used as input to MOHR 140. Output file MOHR 16091 is used as input to MOHR 171. Output file MOHR 16092 is used as input to MOHR 080.





## UNITED STATES DEPARTMENT OF AGRICULTURE

REPORT OF EMPLOYMENT BY AGENCIES  
as of June 30, 1961

AGENCIES	FULL TIME PERMANENT	TEMPORARY FULL-TIME PART-TIME AND INTERMITTENT			GRAND TOTAL
		FORMAL	L. A.	TOTAL	
TOTAL	71,305	12,452	18,800	31,252	102,557
Office of the Secretary	447	21		21	468
Office of Information	243	18		18	261
Library	153	6		6	159
Office of the General Counsel	398	15		15	413
Agricultural Research Service	15,591	1,118	1,314	2,432	18,023
Farmer Cooperative Service	105	2		2	107
Federal Extension Service	239	5		5	244
Forest Service	15,443	2,490	15,353	17,843	33,286
Soil Conservation Service	14,729	2,289	1,133	3,422	18,151
Agricultural Marketing Service	6,782	673		673	7,455
Commodity Exchange Authority	122	2		2	124
Foreign Agricultural Service	802	63		63	865
Agri. Stab. & Conservation Service	8,238	552	61	613	8,851
Federal Crop Insurance Corporation	478	35	611	646	1,124
Farmers Home Administration	4,659	4,981		4,981	9,640
Rural Electrification Administration	973	14		14	987
Economic Research Service	856	47	21	68	924
Management Operations Staff	117	2		2	119
Staff Economists Group	4	1		1	5
Statistical Reporting Service	926	118	307	425	1,351

Series	GS-5	GS-7	GS-9	GS-11	GS-12	GS-13	GS-14	GS-15	GS-16	GS-17	GS-18	Total
GS-010 Information & Editorial Series		28	56	71	68	56	27	9	1			316
GS-018 - Safety Mgt.				1	2							3
GS-027 - Crop. Insurance Adm.		6	23	44	8	13	4					98
GS-031 - Translator	1	5		1	1							8
GS-080 - Security Administration			1		1	1	1	1				5
Subtotal	1	39	80	117	80	70	32	10	1			430
GS-101 - Social Science		2	1	1	3	5		1				13
GS-110 - General Economics					2	2	2					4
GS-111 - Business Economics	2	2		2	3		2	1				12
GS-112 - Internat. Trade & Devel. Economics				2	1	1	1	1				6
GS-113 - Fiscal & Financial Economics				1		1						2
GS-115 - Transportation Economics		4	2	1	1	5	1					14
GS-116 - Labor Economics		2				1	2					5
GS-117 - Agricultural Economics	3	43	134	128	147	125	63	11	3	1		658
GS-135 - Foreign Agric. Affairs					2	2	6	2				10
GS-150 - Geography		1	1	1								3
GS-170 - History Series		1		1		1	1					4
Subtotal	5	55	138	137	155	143	78	16	3	1		731
GS-201 Personnel Adminstr.												
GS-212 - Placement	5	32	39	34	30	36	19	6		1		202
GS-213 - Qualifications Rating	1	14	17	13	11	3						59
GS-221 - Position Classification	3	2		1	1							7
GS-223 - Salary & Wage Adminstr.		8	14	25	25	4						76
GS-230 -	1		2	2	4	1						1
GS-235 - Employee Development		1	2	3	8	6	1					10
Subtotal	10	57	74	78	79	51	20	6		1		376
GS-301 - Gen. Clerically Adminstr. (GS-7 & up)												
GS-303 - Mgt. Analyst (Now 343 & 344)	13	516	417	569	331	210	177	107	37	9	6	2379
GS-330 - Digital Computer Systems Adm.		32	41	57	47	33	13	3				239
GS-331 - Digital Computer Programming				2	1	4	4					11
GS-332 - Digital Computer Systems Oper.	16	28	37	26	9	3						119
GS-334 - Digital Computer Systems Anal.	2	10	6	5		1						24
GS-340 - Program Mgt.		8	9	5	7	4	1		1			33
GS-341 - Adm. Officer & Assistant	29	209	179	212	99	2	17	4	1			790
GS-342 - Office Services Mgt. & Supv.	1	11	8	3	5	5	4	1				38
Subtotal	61	814	697	879	499	302	216	115	39	9	6	3637

Series	GS-5	GS-7	GS-9	GS-11	GS-12	GS-13	GS-14	GS-15	GS-16	GS-17	GS-18	Total
GS-401 - Biology	3	32	12	17	3	6	3					76
GS-403 - Microbiology			4	5	8	4	2					23
GS-405 - Pharmacology			1	1	2	2	1					8
GS-406 - Agric. Extension				1	6	61	25		1	1	1	103
GS-410 - Zoology			1	1		1						3
GS-412 - Parasitology	1	3	5	15	10	9	1					44
GS-413 - Physiology				1		1						2
GS-414 - Entomology	7	34	91	133	84	44	16	2				411
GS-415 - Nematology		2	4	7	6	1						20
GS-420 - Bacteriology	2	6	18	20	13	10	5					74
GS-430 - Botany	1	9	7	8	6	3	1					35
GS-431 - Mycology			1	5	1	2						9
GS-433 - Plant Taxonomy		1	2	4	1	1						9
GS-434 - Plant Pathology	2	5	12	84	63	29	16					212
GS-435 - Plant Physiology	1	3	11	50	32	20	6	1				124
GS-436 - Plant Quarantine & Pest Control	42	66	537	110	62	32	7					856
GS-437 - Horticulture		3	17	33	21	11	1					86
GS-440 - Genetics		3	8	34	15	16	4					81
GS-450 - Gen. Agric. Administr.	1	5	26	7	17	38	81		12	3	5	264
GS-451 - Gen. Agriculture		3	5	7	8	3	2					29
GS-454 - Range Conservation	26	85	85	81	33	10	6					327
GS-457 - Soil Conservation	131	891	2145	883	356	1230	64		2	1		5715
GS-460 - Forestry	284	1029	884	993	547	321	136		3	3		4244
GS-470 - Soil Science	49	454	637	228	105	67	22		1			1568
GS-471 - Agronomy (407)	7	20	54	121	65	33	9					310
GS-475 - Farm Mgt. Loan	13	708	1089	270	68	33	5		1			2190
GS-482 - Fishery Biology			1		1							2
GS-485 - Wildlife Refuge Mgt.		1		4								5
GS-486 - Wildlife Biology	1	2	6	1	2	1						13
GS-487 - Husbandry	4	10	13	15	26	9	3					80
GS-491 - Dairy Mfg. Technology	1	3	3	3	2	1	1					14
GS-493 - Home Economics	7	15	16	27	10	16	5	4				100
GS-494 - Microanalysis			1	2	1							4
Subtotal	583	3393	5696	3171	1574	2015	422	153	20	8	6	17041



Series	GS-5	GS-7	GS-9	GS-11	GS-12	GS-13	GS-14	GS-15	GS-16	GS-17	GS-18	Total
GS-501 - General Acctg. Clerical & Adm. (GS-7 and up)		122	70	30	14	2	2	1		1		242
GS-510 - Accounting	29	87	224	216	170	92	49	9	1			877
GS-560 - Budget Adminstr.	9	27	29	35	37	23	9	2				171
Subtotal	38	236	323	281	221	117	60	12	1	1		1290
GS-602 - Medical Officer					1		1					2
GS-701 - Veterinary Livestock Insp.	1		258	203	70	50	23	5				610
GS-702 - Veterinary Meat Inspection			241	353	85	27	13	5				724
GS-703 - Veterinary			240	185	38	33	20	6				522
GS-704 - Veterinary Virus-Serum Insp.			1	14	10	4	2					31
Subtotal	1		740	755	203	114	58	16				1887
GS-801 - General Engineering		23	14	16	35	22	15	1				126
GS-803 - Safety Engineering					1	2						3
GS-806 - Materials Engineering			3	4	3	1						11
GS-808 - Agricultural Engineering				3	4	4	1					12
GS-810 - Civil Engineering	72	154	192	239	94	63	8	1				823
GS-811 - Construction Engng.		2	14	19	5	3						43
GS-812 - Structural Engineering	1		6	1	4							12
GS-813 - Hydraulic Engineering		8	38	34	20	13	5					118
GS-820 - Highway Engineering	40	50	55	38	23	9						215
GS-824 - Bridge Engineering		2	9	8	4							23
GS-830 - Mechanical Engineering	4	6	11	13	14	6	2					56
GS-850 - Electrical Engineering	9	2	10	8	56	20	1	2				108
GS-855 - Electronic Engineering	1	1	6	8	70	16	2					107
GS-880 - Mining Engineering				9	3	1						13
GS-890 - Agricultural Engineering	43	237	310	93	53	34	9	1				780
GS-893 - Chemical Engineering		7	6	23	27	16	4	3				86
GS-896 - Industrial Engineering	1	3	8	10	6							28
GS-897 - Valuation Engineering		1	1	4	4	3						13
Subtotal	171	496	683	533	426	213	47	8				2577

Series	GS-5	GS-7	GS-9	GS-11	GS-12	GS-13	GS-14	GS-15	GS-16	GS-17	GS-18	Total
GS-905 - General Attorney		2	10	26	22	81	22	24	3	2		192
GS-906 - Hearing Examiner						1		5				5
GS-960 - Adjudicating	8	4		2		2						1
GS-964 - Insurance Examining	20	21	12	9	7	1	1					16
GS-990 - General Claim Examining												71
Subtotal	28	27	22	37	29	85	23	29	3	2		285
GS-1010 - Exhibits Specialist Series												
GS-1020 - Illustrating		2	2	1	1							6
GS-1041 - Landscape Architecture	7	10	6	1	1							18
GS-1071 - Motion Picture Production		13	19	7	6	1						53
GS-1074 - Television Production		2	5	6	8	3	1					25
GS-1083 - Technical Writing and Editing				3	1	2						2
Subtotal	7	27	32	18	17	6	1					108
GS-1102 - Contract Procurement												
GS-1140 - Business Analyst	7	26	19	19	9	9	3					92
GS-1146 - Agri. Mktg. Specialist	25	50	77	114	127	104	64		1	1		563
GS-1147 - Agri. Mktg. Reporting	15	26	63	56	24	14	5					203
GS-1150 - Industrial Specialist				2		5	3					10
GS-1165 - Loan Examination	2	8	3	6	2	1	1					23
GS-1170 - Real Property			3	3	3	1						10
GS-1172 - Realty Acquisition & Disposal	4	4	5	1								14
Subtotal	49	114	169	207	166	134	76		1	1		917
GS-1221 - Patent Adviser					2							2
GS-1301 - General Physical Science												
GS-1310 - Physics	4	4	1		3	8	19	11				42
GS-1320 - Chemistry	27	134	193	10	7	3	4	1				43
GS-1340 - Meteorology			1	177	198	109	55	15				908
GS-1350 - Geology	5	18	45	2	7	2						12
GS-1370 - Cartography	4	12	44	16	8	10	2					104
GS-1390 - Technology	2	17	26	23	18	8	2					111
Subtotal	42	185	320	265	275	161	102	28				1378
GS-1410 - Librarian	1	7	14	21	5	3	1		1			53

Series	GS-5	GS-7	GS-9	GS-11	GS-12	GS-13	GS-14	GS-15	GS-16	GS-17	GS-18	Total
GS-1510 - Actuarila				1								1
GS-1520 - Mathematics	2	3		2								7
GS-1530 - Statistician	17	44	69	86	78	85	32	16	1			428
Subtotal	19	47	69	89	78	85	32	16	1			436
GS-1670 - Equipment Specialist		3	8	3	4	1						19
GS-1710 - Education & Vocational Tng.		2	4	1	12							19
GS-1712 - Instruction			1									1
GS-1720 - Education Research & Program		1	1	1		1						4
Subtotal		3	6	2	12		1					24
GS-1810 - General Investigation	1	17	39	82	38	12	3	1				193
GS-1811 - Criminal Investigating				3	1							4
GS-1850 - Agricultural Commodity & Warehouse Examining	14	38	111	21	17	1	1					203
GS-1860 - Public Health Inspection		2	24	1								27
Subtotal	15	57	174	107	56	13	4	1				427
GS-1980 - Agri. Comm. Grading	115	325	1239	315	132	33	4					2163
GS-2001 - General Supply		25	19	7	3	2						56
GS-2010 - Supply-Comm. Requirement, Distribution, & Mgt.	1				1	1						3
GS-2020 - Purchasing (GS-7 & Up Now in GS-1102-0 Series)		14	7	6	2							29
GS-2090 - Printing & Publication		10	7	2	3	1						23
Subtotal	1	49	33	15	9	4						111
GS-2101 - General Transportation		2	2	2	2		1					9
GS-2130 - Traffic Mgt.		1	2	10	5	5	1					24
GS-2131 - Freight Rate		15	42	12	4	4	1					78
GS-2132 - Travel		1		1								2
Subtotal		19	46	25	11	9	3					113
Grand Total	1147	5953	10,563	7055	4034	3559	1181	410	70	23	12	34,007

IDENTIFICATION OF INPUT ITEMS NEEDED TO PRODUCE  
PROPOSED PERSONNEL DATA FROM THE SYSTEM

<u>Nature of Input Item</u>	<u>Source*</u>
A. FOR ACCESSIONS	
1. Name	SF-50 or AD-294
2. Date of birth	SF-50 or AD-294
3. Social Security number	SF-50 or AD-294
4. Nature of personnel action (such as career-conditional appointment, promotion, reassignment, etc.)	SF-50 or AD-294
5. Effective date of personnel action	SF-50 or AD-294
6. Position title and number	SF-50 or AD-294
7. Classification series	SF-50 or AD-294
8. Grade	SF-50 or AD-294
9. <u>Salary:</u>	
(a) Federal share	
(b) Cooperator's share	
(c) Post differential	
(d) Cost-of-living allowance	
(e) Salary differential	
10. Employing agency	SF-50 or AD-294
11. Office within the agency by which employed -- organizational identification	SF-50 or AD-294
12. Duty station (show city, county and state)	SF-50 or AD-294
13. Apportioned position (code and in all cases enter name of state of legal residence if citizen, or foreign country if non citizen)	SF-50 (not applicable to AD-294)
14. Competitive service or excepted service	SF-50 or AD-294
15. Tenure group for reduction in force	SF-50 or AD-294
16. Veteran preference (show whether none, 5 point, 10 point disability, 10 point compensable disability, or 10 point for other reasons)	SF-50 or AD-294

\*AD-294 will not be required if the proposed Departmental SF-50 is installed.



<u>Nature of Input Item</u>	<u>Source</u>
17. Payroll deductions: (a) Civil Service Retirement (b) Federal Insurance Contribution Act.	SF-50 or AD-294
18. Physical handicap code	SF-50 or AD-294
19. Sex	SF-50 or AD-294
20. Service computation date	SF-50 or AD-294
21. Commencing date (month, day, and year) of service counting toward completion of probationary or trial period	SF-50 (not applicable to AD-294)
22. Commencing date (month, day, and year) of service counting toward career (or permanent) tenure	SF-50 (not applicable to AD-294)
23. Tenure	SF-50 or AD-294
24. Status	SF-50 or AD-294
25. Identity of office maintaining personnel folder	SF-50 or AD-294
26. Civil Service or other legal authority	SF-50 or AD-294
27. Appointment limitations (both time and aggregate earnings)	SF-50 or AD-294
28. <u>Pay category:</u> (a) Full-time (b) Part-time (c) When actually employed - Regular Tour (d) When actually employed - No Regular Tour (e) Combination part-time and when actually employed (f) Per annum (g) Per hour (h) Per month (i) Per diem (j) Fee basis	SF-50 or AD-294
29. Identification of letter of authorization employment	AD-294
30. Wages and salaries paid during SF-113 reporting month	PADA Application
31. Lump sum leave payments during SF-113 reporting month	PADA Application
32. Number of employees on terminal leave during SF-113 reporting month	PADA Application
33. Number of part-time and intermittent employees who are paid during SF-113 reporting month	PADA Application

<u>Nature of Input Item</u>	<u>Source</u>
34. Identification of sensitive positions (only where SF-50 is otherwise necessary)	SF-50
35. Degree and date of special security clearances (Top Secret, Secret, Confidential, or other)	Copy of document issued by Security Officer
36. Military status (whether Ready Reserve, Standby Reserve, National Guard, Selective Service status)	Special report for employees on rolls and SF-50 for new employees
37. Salary adjustment for reemployed Civil Service Annuitants	SF-50
38. Data on special groups	Special report kept confidential
39. Health benefits coverage	SF-2809 (Health Benefits Registration Form)
40. Tax deductions	W-4 (Employee's Withholding Exemption Certificate)
41. Reasons for resignation	SF-52

B. FOR ALL FORMAL ALLOCATION  
ACTIONS COVERING CLASSIFI-  
CATION ACT AND PUBLIC LAW  
POSITIONS VACANT OR FILLED

1. Position number	OF-8
2. Official title and working title	OF-8
3. Class series	OF-8
4. Grade	OF-8
5. <u>Organization Designation:</u> (a) Agency (b) Division, Branch, Units, etc.	OF-8
6. Identification of sensitivity of position	OF-8
7. Location	OF-8
8. Nature of classification action	OF-8
9. Date classified	OF-8

<u>Nature of Input Item</u>	<u>Source</u>
10. Limitations on position	OF-8
11. Report of Position audits where no change results therefrom	Source form to be developed
12. Abolishment of position	Special form to be developed
13. Identification of positions subject to exercise of re-employment rights	Forms SF-52 reflecting furloughs or separations with re-employment rights

C. ADDITIONAL DATA NEEDED  
FOR EMPLOYEES INCLUDED  
IN MANPOWER INVENTORY

1. <u>Education:</u>	SF-57 and AD-295
(a) Degree or highest above high school attained and date thereof	(Record of Formalized Training)
(b) Name of college or other advance institution	
(c) Major and minor fields of study	
(d) School honors received	
2. <u>Experience:</u>	SF-57
(a) Other pertinent Federal employment (type, level and duration)	
(b) Pertinent non-Federal employment (type, level and duration)	
3. Foreign language skills	SF-57
4. Special qualifications and skills (other than language)	SF-57
5. Awards, commendations, etc. (outside Federal Government)	SF-57 and AD-295 (revision necessary)
6. Awards, commendations, etc. (within Federal Government)	Outstanding Performance Rating, AD-287-2 (Approval and Certification of Cash Awards), Letters of Commendation, and Report of Secretarial Committees on Approved Distinguished and Superior Service Awards

<u>Nature of Input Item</u>	<u>Source</u>
7. Adverse actions (suspensions, reprimands, etc.)	SF-50 and copies of reprimand letters
8. In-service and out-service training (nature, duration, where obtained, and rating, if any)	AD-295 (revision necessary)
9. Publications, papers, presentations, and patents	SF-57 and AD-295 (revision necessary)
10. Membership in professional societies and offices held	SF-57 and AD-295 (revision necessary)
11. Membership in civil and fraternal organizations and offices held	Source to be developed
12. Membership and offices held in departmental and interagency committees	AD-241 (Committee Control Record)
13. Marital status and dependents	SF-2809 (revision of completion instructions required)
14. Foreign travel (countries and dates)	SF-57 and AD-179 (Request to Perform Foreign Travel or to Attend Meetings)
15. Foreign residence (countries and dates)	SF-57
16. <u>Appraisals:</u>	USDA vouchering form representing consolidation of appraisal forms for performance and career development will be required
(a) Performance (quality and quantity of work or contributions, managerial skills demonstrated, etc.)	
(b) Personal traits and characteristics	
(c) Potential	
(d) Locations and types of positions for which interested	
(e) Physical impairments (if any)	
(f) Availability for travel (constantly or frequently)	
(g) Identification of any significant limitations	
(h) Efforts toward self-improvement (including current attendance at educational institutions above high school level)	

NOTE: A special form will have to be devised to capture initial basic input information for employees already on the rolls in order to get the data processing system started.



Nature of Input Item

Source

D. FOR ALL ACTIONS  
OTHER THAN ACCESSIONS

Minimum information needed to identify the employee, the kind of  
personnel action and the changed items of information

Revised Form 52

DESCRIPTION OF PERSONNEL OUTPUT PRODUCTS TO  
BE DERIVED FROM A DATA PROCESSING SYSTEM

I. REQUIRED PERSONNEL REPORTS NOW BEING PREPARED BY AGENCIES THAT CAN BE PRODUCED BY THIS SYSTEM

Information for the following reports is now assembled in appointing offices and sent to the Department after agency summaries are prepared. Under this system appointing offices and agencies will not have to prepare these reports.

<u>Nature of Report</u>	<u>Frequency</u>
A. Report of Federal Civilian Employment, SF-113	Monthly
B. Report on Geographical Distribution of Federal Employees	Annually (Dec. 31)
C. Report on Salary Distributions of Employment	Annually (Oct. 15)
D. Report on Occupational Distribution of Employment	Annually (Oct. 31)
E. Occupational Survey of Group III Retention	Semi-annually and otherwise as re- quested
F. Report of Changes in Sensitive Positions and Incumbents	Monthly
G. Report of Retirements	Monthly
H. Report on Length of Service for Award Purposes	Annually (Apr. 1)
I. Report on Employees Entitled to Foreign Allowances	Annually
J. Non-recurring Reports of Employees by State of Legal Residence	As necessary
K. Non-recurring Reports on Special Groups	As necessary
L. Whitten Report on Average Grade, Salary and Position Audits	Annually (June 30)
M. Report of Positions Established and Abolished	Monthly
N. Distribution of Personnel by Major Programs	Quarterly

II. REQUIRED PERSONNEL REPORTS NOW BEING PREPARED BY AGENCIES THAT CAN BE PRODUCED PARTIALLY BY THIS SYSTEM

A. Report on U. S. Citizens and Dependents in Foreign Countries	Annually
---	----------

Nature of Report

Frequency

III. AGENCY NEEDS FOR PERSONNEL "FEED-BACK" INFORMATION FROM THE PROPOSED SYSTEM

The system will provide the following information to agencies at the frequencies indicated:

A. Individual notices to employees of approved personnel actions except Forms SF-50 covering accessions. These will be sent to appropriate appointing offices. Minimum information needed to identify the employee, the kind of personnel action, and the changed items of information will be reported on a revised Form 52. Special information will be required for:

- a. Suspensions
- b. Resignations in lieu of proposed separation for disciplinary reasons
- c. Separation - abandonment of position
- d. Removals
- e. Separation - Disqualification
- f. Separation - Disability

Indicated effective dates must be protected.

Pay adjustment actions for employees occupying Classification Act positions will be issued on a blanket basis without individual input data.

B. The following items substitute for tickler tabs maintained on employee record cards (SF-7) and position strips (SF-7d):

Nature of Item

Frequency

1. Notices to employees covering each of the following actions on SF-50:

Pay Period

- a. Periodic step increases for classified positions
- b. Longevity step increases
- c. Conversion to career or permanent appointment upon completion of conditional period

2. Lists of employees in wage board positions showing those who have served 960 hours since appointment or 3040 hours since periodic step increase. List should be by appointing offices

Nature of Item

Frequency

and show name, date of birth of employee; Entry on Duty Date (E.O.D.), date or Periodic Step Increase (P.S.I.), date and non-overtime hours worked since such date.

- |    |   |                        |
|----|---|------------------------|
| 3. | Lists of employees, by appointing offices, under appointments with working day or dollar limitations identifying those employees who are within 20 days or \$100.00 of the limitation.  | Pay period             |
| 4. | Lists of employees, by appointing offices, whose appointments will expire during the pay period following the next one.   | Pay period             |
| 5. | Lists of employees, by appointing offices, whose yearly anniversary date in present positions will be completed in the next pay period. List should show position title, grade and organizational location. Send to appropriate appointing office. (This will be notification that unless otherwise directed, prescribed periodic step increases will be effected). | Pay period             |
| 6. | Lists of employees, by appointing offices, of those who:  | Every other pay period |
| a. | Have a probationary period expiring by the end of the fourth pay period ahead   |                        |
| b. | Will have 30 years of service and will reach age 60 within the next four pay periods (optional retirement eligibility)  |                        |
| c. | Will have 15 years of service and will reach age 62 within the next four pay periods (optional retirement eligibility)  |                        |
| d. | Will have 15 years of service and will reach age 70 within the next eight pay periods. (mandatory retirement)   |                        |
| e. | Were appointed with career or career-conditional status from civil service certificate six pay periods ago. The date of appointment should be included on this list. (This is to check receipt of Proof of Selection.)  |                        |
| f. | Were subject to national agency checks when appointed six pay periods ago. The date of appointment should be included on this list.   |                        |
| g. | Were assigned to other positions six pay periods ago. The date of change should be included on this list. (This is for placement follow-up.)  |                        |
| h. | Were added to the rolls of agency ten pay periods ago. The date of entry should be included on this list. (This is for checking on completion of orientation training.)   |                        |



<u>Nature of Item</u>	<u>Frequency</u>
<p>7. A list of employees, by appointing offices, showing those who will have the following lengths of service by May 15:</p> <ul style="list-style-type: none"> <li>a. 10 years</li> <li>b. 20 years</li> <li>c. 30 years</li> <li>d. 40 years</li> <li>e. 50 years</li> </ul> <p>Lists should show organizational location. Distribute to appointing offices by April 1 each year.</p>	Annually
<p>8. A list of classified positions by appointing offices, showing those which have been vacant for the past 26 pay periods. List should show position number, title, series, grade and organizational location. Distribute to appointing offices by June 1 each year.</p>	Annually
<p>9. A list of employees by appointing offices showing those with special security clearance. List should show position by number, title, series, grade, and degree and date of clearance. Send to appointing office by September 1 each year.</p>	Annually
<p>C. The following items substitute for information previously summarized by agencies in submitting reports to the Department. The information will be assembled by appointing offices and sent to them. An agency also may request that information for the agency be combined and sent to the agency central office:</p>	
<p>1. A list of employees added to the rolls during the previous six pay periods. The list should show type of appointment; position title, grade, series and organizational location; E.O.D.; civil service status; and service computation date.</p>	Every sixth pay period
<p>2. A list of employees separated during the previous six pay periods. The list should show type of appointment; position occupied by title, series, grade and organizational location; service computation date; date of separation; time worked on intermittent tours; and reason for leaving.</p>	Every sixth pay period
<p>3. A list showing numbers of employees in each of the geographic locations listed on SF-113 and other breakdowns needed by agency. The data should indicate the number with LA appointments and the numbers with less-than-fulltime tours.</p>	Every other pay period
<p>4. A list of changes of employees between organizational units of an agency for use as needed to meet training and development objectives. The listing should include each employee who moved from one organizational unit to another within the agency during the previous 26 pay periods and should show the</p>	Annually

Nature of Item

Frequency

following: position title, grade and organizational unit for both "from" and "to", and date of transfer.

- |    |   |               |
|----|---|---------------|
| 5. | A list showing the total number of employees and payroll costs by major programs, county, state and organizational location.                                      | Monthly       |
| 6. | A list showing the total number of professional employees added to the rolls during the periods January 1 to June 30 and July 1 to December 31. List should show: | Semi-annually |
|    | a. Number within designated organizational locations and include educational level attained (i.e. B.S., M.S., Ph.D., D.V.M., etc.)                                |               |
|    | b. Number from each educational institution by educational level attained.  |               |
|    | c. Number by appointed grade, title and series with educational level attained.   |               |
- D. The following items substitute for special reports and records now being prepared and maintained in appointing offices. The information will be assembled by appointing offices and sent to them. An agency also may request that information for the agency be sent to the agency central office:

Nature of Item

Frequency

- |    |  |            |
|----|--|------------|
| 1. | A position organization chart with data arranged by organizational units listing the highest grade position first. Data includes position title, series, grade, location (organizational, duty station, county, and state), number, and applicable sensitivity or other limitation and incumbent's name. Several pages will be required to assemble the data for a specified appointing office. Each organizational unit will be started on a separate page. | Initially  |
| 2. | When changes occur on any page of the above chart the system will print out a new page.  | Pay Period |
| 3. | Rosters of employees by occupations and grade levels. These lists are to be assembled by appointing offices with employees segregated by grade levels and occupations or designated specialties within occupations. For each occupation the following information will be entered for the incumbents:  | Initially  |
|    | a. Name  |            |
|    | b. Date of birth   |            |
|    | c. Sex   |            |
|    | d. Service computation date  |            |
|    | e. E.O.D. in present position  |            |

<u>Nature of Item</u>	<u>Frequency</u>
<ul style="list-style-type: none"> <li>f. Type of appointment</li> <li>g. C.S. status</li> <li>h. Veteran's preference</li> <li>i. Military status</li> <li>j. Organizational location (Division, Branch, Section, Region)</li> <li>k. Geographic location (duty station, county, state)</li> <li>l. Tour of duty (whether full-time, part-time, intermittent, WAE)</li> </ul>	
4. When changes occur on any of the above rosters the system will print out a new roster	Every other pay period
5. A strength-of-force summary showing for designated organizational locations the numbers of employees at the end of the fiscal year. Three lists will be needed as follows: <ul style="list-style-type: none"> <li>a. By grade level</li> <li>b. By title, series, and grade</li> <li>c. By type of appointment</li> </ul>	Annually
6. An age class distribution of professional employees in an agency at the end of the fiscal year. List should show the number in each title series and grade level which are in the following age brackets: <ul style="list-style-type: none"> <li>a. 20-29</li> <li>b. 30-39</li> <li>c. 40-49</li> <li>d. 50-59</li> <li>e. 60-64</li> <li>f. 65-69</li> <li>g. 70+</li> </ul> <p>Summaries of each series and of each grade level should be computed and printed.</p>	Annually
7. Appointing offices will be provided with data related to classification programs. Three lists will be needed showing fiscal year actions and results as follows: <ul style="list-style-type: none"> <li>a. Total number of classified positions existing at the end of the year. The list will show the number by grades and series. The weighted average grade for the list should be computed and shown.</li> <li>b. Number of classified positions audited during the year. The list will show number of positions audited by title, series, grade and organizational location.</li> </ul>	Annually



<u>Nature of Item</u>	<u>Frequency</u>
c. Number of classification actions taken during the year. The list will show for each type of action (i.e. reclassification, redescription, in lieu of, etc.) the number of positions by title, series, grade, and organizational location.	
8. A monthly summary showing changes in veterinarian employees. List will show those added to the rolls, changed headquarters and separated. List will include name of employee, title, grade, organizational and geographic location of position and effective date of change.	Every other pay period
9. A summary showing changes in junior professional development program. This will list all such employees on the rolls on June 30 and December 31 and include name and date of birth of employee, school last attended, previous assignments and dates thereof, grade and title of current position and E.O.D. date thereof.	Every thirteenth pay period
E. The following items are not now maintained by agencies but will be feasible under the system:	

<u>Nature of Item</u>	<u>Frequency</u>
1. A summary of professional employees by designated organizational location showing number by educational attainments (B.S., M.S., Ph.D., etc.), title and grade level of present position and name of last educational institution attended.	Annually
2. A list of employees by appointing offices showing those promoted during the previous thirteen pay periods. The list will show position series, grade and organizational location or designation for both "from" and "to"; whether the action was within or exempt from promotion plan; and effective date.	Semi-annually
3. An analysis of turnover for full-time non-temporary employees by occupational groups and grade levels for the Department as a whole and for specific agencies and organizational units. This will show annual turnover rate, number and percentage leaving by different causes (such as retirement, removal, transfer to other Federal agencies, resignation, etc.), number and percentage leaving voluntarily by major reasons (such as to accept other positions at higher salaries, etc.).	Annually
4. Lists of best qualified employees within the Manpower Inventory for consideration in filling specific vacancies on a Department-wide basis (in conjunction with this consideration should be given to revising the policies and procedure contained in 8 AR 404 for preclearance with other agencies before engaging in outside recruitment for positions above recognized entrance levels).	As requested



<u>Nature of Item</u>	<u>Frequency</u>
5. Lists of Department employees within the Manpower Inventory for consideration in filling specialized vacancies in the International Cooperation Administration, Food for Peace Organization, Peace Corps, International Organizations and other similar agencies. (A sound policy should be established and observed on the extent to which the Department will make lists of employees available for possible external placement purposes.	As requested
6. A statistical analysis of the military status (Ready Reserve, Standby Reserve, National Guard, and Selective Service Status) of employees by occupational groups and grade levels for the Department as a whole and for specific agencies and organizational units. This would serve as a basis for anticipating possible manpower releases to the armed forces and for planning recruitment programs to obtain replacements.	Annually and Otherwise as requested
7. A statistical analysis of promotion actions showing number and percentage promoted each year by occupational groups and grade levels for the Department as a whole and for specific agencies and organizational units.	Annually
8. A statistical analysis of average time in present grade by occupational groups and grade levels for the Department as a whole and for specific agencies and organizational units. Provision will be made for a further breakdown of this item by academic degree levels for professional and certain other employees included in the Manpower Inventory.	Annually
9. A statistical analysis of average length of Federal service by occupational groups and grade levels for the Department as a whole and for specific agencies and organizational units. Provision will be made for a further breakdown of this item by academic degree levels for professional and certain other employees included in the Manpower Inventory. These will identify the rate of progress in various professions and organizational structures and thus indicate where studies of practices should be made.	Annually
10. An analysis of the ratio of support personnel for the Department as a whole and for specific agencies as well as organizational units or designated programs within agencies.	Annually
11. Reduction-in-force lists arranged by retention subgroups and number of retention credits for specific competitive areas and competitive levels where it is necessary to review the records of a sizable number of employees in connection with proposed reductions in force.	As requested

<u>Nature of Item</u>	<u>Frequency</u>
12. Analysis of the volume of personnel activities by specific types of personnel actions (such as accessions, promotions, reassignments, demotions, removals, suspensions, changes in headquarters, separations, etc.) for the Department as a whole and for specific agencies and organizational units.	Annually
13. An analysis of the number and percentage of student trainees by occupational categories included within the Manpower Inventory who return to the Department for continuing employment upon graduation. This will be done for the Department as a whole and for specific agencies and organizational units thereof.	Annually
14. A periodic identification of younger employees included in the Manpower Inventory who appear to possess unusually high potential for growth and development in executive and administrative fields for the purpose of career counseling and planning on an individual basis.	Annually
15. A summary showing the educational institutions supplying the professional work force of the Department by occupational groupings. This can be used to determine what recruiting sources need further exploration.	Annually
16. An analysis of the professional work force of the Department by occupations and agencies showing numbers of employees by academic degree levels and indicating what degree levels were acquired while on the rolls of the Department.	Initially
17. A summary of professional employees by occupations and agencies showing numbers of employees currently enrolled for advanced degrees. The list will include nature and level of the degrees sought by educational institutions.	Annually

P E R S O N N E L   G R O U P   A N A L Y S I S   S U M M A R Y

MANAGEMENT ANALYST (GENERAL) GRADE 12 NO. REQUESTED: 5											
Name	Grade	Agency	Division	Branch	Score	Rating Index*	Special Qualities (Writing Ability) Score Index#		Rank	C.S.C. Qualified	Social Security No.
Jones, Harold	12	XXXXXX	XXXXXX	XXXXXX	13,764	1.10	265	0.88	3	Yes	434 50 1945
Collins, James	12	XXXXXX	XXXXXX	XXXXXX	12,963	1.04	200	0.67	4	Yes	326 71 1862
Holt, Thomas	11	XXXXXX	XXXXXX	XXXXXX	11,941	0.95	355	1.18	2	Yes	529 61 1963
Webster, Michael	11	XXXXXX	XXXXXX	XXXXXX	10,763	0.86	400	1.33	1	In 8 Mos.	452 71 1725

(Note: Agency, Division and Branch initials will be supplied)

\*Base 12,500

#Base 300

## PERSONNEL ANALYSIS - HAROLD JONES

Soc. Sec. No.	Sex	Grade & Step	Agency	Div.	Br.	Birth Yr.	Yr. Grad. Hi-Schl.	CS Status	Service Compet.	Vet. Pref. Yes - 5 Pts.	Sec. Clear. Secret	Any Derog. Info. No.
434-50-1945	M	12-B	XXXXX	XXXXX	XXXXX	1926	1942	Career-Perm.				
Marital Status		Bachelor		Will Move - Yes				Will Travel - Yes				

## WORK HISTORY

JOB FAMILY	SPECIALIZATION	\$ SALARY	FROM TO	DURATION		EMPLOYERS & LOCATION
				YRS	MOS	
Telegraph Line Construction		1.75 Hr.	1942 42	0	4	Western Union Dallas, Tex.
Post Office Clk.		1.20 Hr.	1942 43	1	2	U. S. Post Office Dept. Ft. Worth, Tex.
U. S. Air Force	Radio Operator	1.10 Mo.	1943 46	3	4	U. S. Air Force Wash., D. C.
	Clk. Typist	1.10 Mo.	1946 46	0	6	
Retail Sales Work		1.00 Hr.	1946 49	3	2	Sears Roebuck & Co. Dallas, Tex.
Insurance Accounting		1.80 Hr.	1949 49	0	8	Jones Insurance Agency Dallas, Tex.
Internal Revenue Agent	Federal Tax Auditor	3400 Yr.	1949 53	4	1	Internal Revenue Service Wash., D. C.
	Instructor, Federal Tax Laws	4360 Yr.	1953 54	1	3	
	Particip. in Interpret. Tax Laws	5500 Yr.	1954 56	2	2	
Mgr. Tax Dept., Public Acct. Firm		6800 Yr.	1956 57	1	7	Friendly Brothers Acct. Firm Dallas, Tex.
Internal Auditor		7500 Yr.	1957 60	3	2	USDA Dallas, Tex.
Management Analyst		8955 Yr.	1960 61	1	1	
Digit. Computer Syst. Analyst		9215 Yr.	1961 61	0	7	

## EDUCATION

Education Degree	College	Year	Cred. Acc.	Academic Honors
B.A., Prof. Accounting	Southern Methodist	1950		Grad. with Honors
M.A., Management	American University	1953		
Foreign Languages	Speaks French	Reads French	Writes French	

## GENERAL INFORMATION

## HOBBIES

Golf  
Bridge

## OTHER TRAINING

LGTH.

GRAD.

IBM 7070 Programming School

1 Mo.

1960

## ARTICLES / PUBLICATIONS

YEAR

PUBLISHING JOURNAL

The Value of Automation in Small Business

1960

Data Processing Digest

## PROFESSIONAL SOCIETIES, 1960-1961

OFFICE HELD

America Institute of Accountants

## CIVIC ORGANIZATIONS, 1960 - 1961

OFFICE

Boy Scouts of America

CHAIRMAN, TROOP COMMITTEE

## APPRAISALS

## FUTURE INTERESTS

Administrative Management

## CURRENT PERFORMANCE APPRAISAL

STRONG

AVERAGE

WEAK

Leadership Qualities

X

Initiative

X

Judgment

X

Technical and Scientific Proficiency

X

Written Communication

X

## TEST

RAW SCORE

YEAR

General Aptitude Test

204

1960

Creative Ability

176

1960

## PHYSICAL CONDITION

GOOD

## EVALUATION

1/ This Employee is Outstanding in:

1/ He Needs Further Development in:

Supervisory Ability  
Work Performance  
Group Cooperation

Technical Knowledge

1/ This analysis is generated by the computer programs.

(Note: Agency, Division and Branch initials will be supplied.)



# GRAPHIC PRESENTATION OF STATISTICAL GROUPING

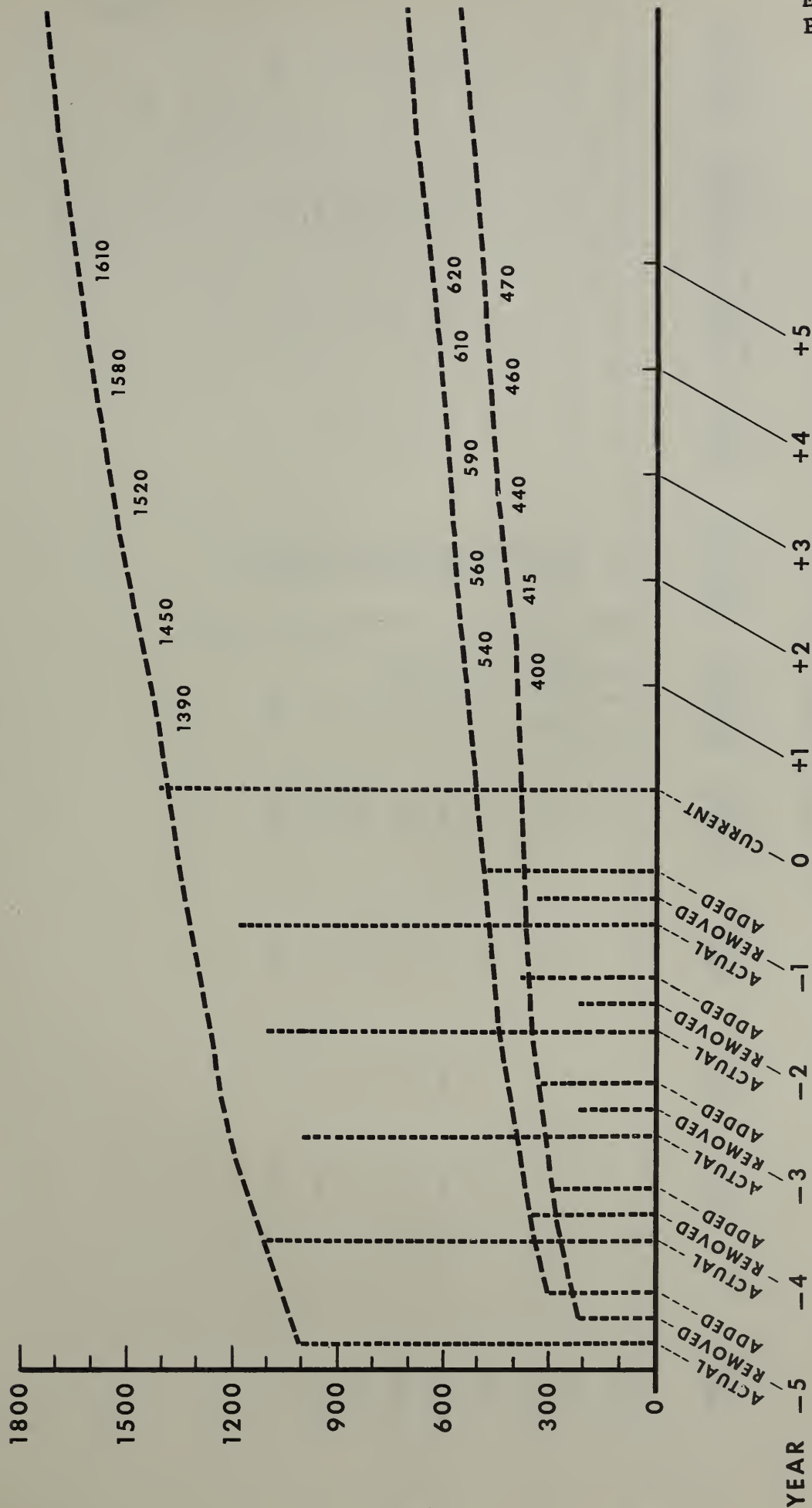


Exhibit VII  
Personnel

This presents the statistical groupings shown by Exhibit VIII. The upper line shows the projected number of employees at the GS-12 level in selected families and specialties. The lower line shows the projected separations; and, the middle line shows the projected replacements.

STATISTICAL GROUPING

INQUIRY GS - 12

FAMILY AND SPECIALTY +	OFFICE	CURRENT YEAR COUNT +	SEPARATION LAST YEAR +	REPLACEMENT LAST YEAR +	PROJECTED COUNT LAST YEAR +	PROJECTED SEPARATION LAST YEAR +	PROJECTED REPLACEMENT LAST YEAR +	DEVIATION OF TOTAL PROJECTION +	PROJECTED COUNT FIRST YEAR +	PROJECTED SEPARATION FIRST YEAR +	PROJECTED REPLACEMENT FIRST YEAR +
001 017		219	90	120	219	80	110	0	240	94	130
003 031		9	2	3	9	3	4	0	10	3	5
003 034		7	2	1	6	3	3	-1	5	1	1
004 001		3	1	0	3	0	0	0	2	0	0
004 034		63	9	11	65	6	8	+2	66	10	12
004 060		701	164	190	744	177	235	+43	729	170	208
004 070		135	54	72	145	47	67	+10	150	60	79
008 055		70	24	23	74	30	30	+4	68	22	22
015 030		93	34	70	85	14	40	-8	120	40	83
		1300	380	500	1350	360	497	+50	1390	400	540

Exhibit VII  
Personnel

PAYROLL AND ACCOUNTING

Result of Payroll and Accounting Study

Computer Schematics

Exhibits





## RESULTS OF PAYROLL AND ACCOUNTING STUDY

### I. INTRODUCTION

The objective of the Payroll and Accounting and Budget Group was to develop the most economical and efficient payroll system that would:

- (a) Provide for the expeditious payment of salaries,
- (b) Meet existing legal, Treasury, General Accounting Office, Civil Service Commission, Bureau of the Budget, and other requirements,
- (c) More adequately handle the increasing complexity of the payroll process,
- (d) Produce, as a byproduct of the payroll process, accounting reports on expenditures for personal services and related charges,
- (e) Provide an accurate and simplified method of accounting and reporting for fringe benefits deductions, contributions, and taxes, and
- (f) Use available ADP equipment to the maximum extent feasible.

### II. FINDINGS

Payrolling operations of the 18 agencies and offices in the Department of Agriculture are currently performed in 87 payroll offices within the continental United States. Exhibit I shows the number of payroll offices and the number of employees serviced by each.

The procedures for reporting time and attendance of employees and for payrolling operations vary considerably between agencies. Ten different types of reports currently are used to report time and attendance. Both the simplified and comprehensive payroll systems are used. Some systems are completely manual; some use bookkeeping machines; and others use punched cards and ADP equipment. Some agencies have one centralized payroll office that services all of its employees in the U. S. and foreign countries; others have regional payroll offices that service areas ranging from cities (such as Washington, D. C. ) to a State or several States. There are 18 payroll offices in Metropolitan Washington; in other cities there are three and four. The distribution of checks varies from complete individual mailing by the disbursing office to complete bulk mailing to designated agents. In some instances the designated agents remail the checks in bulk to offices for distribution to employees; in other instances, the agents remail to individuals.

In developing the new system the group examined the present one. Information on the input and output volumes of the present system and the new system is given in Exhibits II and III.

### III. DESCRIPTION OF THE PROPOSED SYSTEM

#### A. General

The proposed system provides for the processing of all payrolls at a single Departmental office, known as the Management Data Service Center (MDSC).

All payroll and accounting input documents will flow directly from all agencies to the MDSC. Each agency will establish one or more contact points to handle this flow and related correspondence with MDSC. These contact points will forward documents weekly to MDSC. The documents will be reviewed and batched and then forwarded to the Data Processing Center (DPC) for conversion to punched cards and magnetic tape and for computer processing. The DPC will produce tapes for the issuance of checks

and bonds and print related payroll and accounting reports for return to the MDSC and further distribution as required. The input and output of the proposed system are shown in Exhibits IV and V.

The design follows generally proved payroll practices. It was recognized that certain techniques used for processing other input data for ADP systems may be applied to further reduce costs and these will be tested. For purposes of system presentation and comparative costing, however, it was preferable to show the system design based upon proved payroll procedures and techniques. Any improvements would increase the cost benefits to be derived from this system.

Since office staff will be built gradually, any cost reductions due to system improvements can be realized by not building the staff to the size shown by this report.

Typical system improvements which may be considered have been inserted within the text of the system description where applicable.

## B. Controls

1. Location of Controls. Consideration was given to having input document control totals prepared by agencies instead of at the MDSC. This would be feasible at locations where there is a concentration of employees, but many agency offices would have low volume or rapid turnover of employees, and there could be a delay in getting source documents to the MDSC. Also, many times the basic information needed to obtain the controls might not be available at the initiating office, and sometimes the source documents will be received directly from employees who might not be familiar with the controls.

Therefore, all document control totals will be determined initially by the processing clerks at the MDSC as follows:

- a. All like documents will be grouped into batches of reasonable size depending on the type of document.
- b. For each batch, adding machine tapes will be prepared showing totals of certain common information.
- c. The Unit Supervisors will group like batches of documents and prepare a batch control sheet reflecting in summary the control totals from the adding machine tapes. A control number will be assigned to each control sheet. The batch control sheet, with documents and tapes, will be routed to the DPC.
- d. The DPC will key punch and verify detail cards from the documents and control cards from batch control sheets. It is imperative that the punching of social security numbers be accurate because the master files will be maintained in that sequence. To insure this accuracy, the self-checking number method will be employed. A print-out will be furnished for each batch not in balance; it will show the totals obtained from the detail cards and the control cards, and the differences. The tabulation and the documents for batches that are out of balance will be routed to the Processing Division for reconciling differences.
- e. After the differences are reconciled and the necessary corrections are made on adding machine tapes and batch control sheets, the batches will be resubmitted to the DPC for processing.



## SYSTEM IMPROVEMENT

Agencies could prepare document transmittals indicating control totals, types of documents, and whether unusual transactions exist, such as employees with no social security no., social security no.'s for employees previously not having one, or leave without pay. This indication could be made by checking appropriate blocks on the transmittals.

Experience would disclose those agencies which have records of furnishing accurate control totals. No manual verification of such totals would be made at the MDSC. In those instances where totals prove to be unreliable, they would be checked at the MDSC.

Control totals could be furnished the agencies with Time and Attendance Reports (T&A). This would provide a predetermined total for the T&A clerk when T&A's for the subsequent pay period are submitted. Changes in personnel during the period could be added and subtracted from the predetermined total, and a new control total developed. This would preclude the necessity of manually totalling the entire T&A file.

Negative reports from T&A clerks would be required. Each contact point would submit a prenumbered transmittal card with each report and all contact points would send in the same transmittal number. This would allow very timely mechanical verification that all contact points had reported and the DPC could print form letters covering any missing reports for immediate follow-up by the MDSC.

2. Block Control. To provide for an orderly and fixed flow of input documents, controls will be established by using an organizational code that indicates the agency and administrative unit. This method will facilitate (1) fixing areas of responsibility of supervisors and clerical personnel, (2) distributing documents, (3) distributing and measuring, and (4) processing documents. Like documents from the same organizational unit will be handled by the same clerk.

For control and workload distribution, each supervisor will maintain an informal record showing the agency administrative unit and number of employees served by each clerk. The agency and administrative unit symbols of the organization codes will constitute the block control. To illustrate, 11-08-12 will identify the agency as Forest Service (11), the region as southeastern (08), and the administrative unit as North Carolina National Forests (12). Thus, 11-08-12 will constitute a payroll block number.

### C. Type of Payroll System

Because of pay of many employees change from pay period to pay period, the comprehensive system will be the most practical for the ADP operation. This will eliminate maintaining a control register (either manually or automatically) that would require issuing a change slip and updating the control register for all changes. In the comprehensive system an individual earnings statement will be issued each pay period to all employees.

#### D. Employment Separations and Related Actions

1. General. Changes in the payroll records occur as a result of personnel actions initiated by personnel offices, actions initiated by employees, and actions generated by the computer programs. Notification of Personnel Action, SF-50, relating to accessions, and Request for Personnel Action, SF-52, for separations, promotions, reassignments, and name changes, will be received from approximately 130 personnel offices. In addition, Notice of Short Term Employment, AD-294, and Letters of Authority, LA, for accessions will be received from approximately 2,000 appointing locations. Other documents affecting the payroll, such as authorizations and changes in savings bonds deductions, changes in withholdings, and change of check mailing instructions, will be received from employees through time and attendance clerks. Other documents, such as Federal and State tax exemption certificates, Federal Employees Group Life Insurance (FEGLI) waivers, and health benefits enrollments and changes, may be received from any of these locations. For instance, if a new employee has determined such options at the time of appointment, bond authorization, tax exemption, check disposition, and life insurance forms will accompany the SF-50 from the personnel office. Otherwise, these forms may be furnished by the time and attendance clerk. Insurance forms will be forwarded by the time and attendance clerk only after approval is received from the personnel office. Time and attendance reports will bear a certification to the effect that the new employee has executed the oath of office. Time and attendance clerks will not submit changes until pre-headed time and attendance reports for the employee have been received from the MDSC. Documents relating to these actions will be forwarded from the appointing offices and time attendance clerks, who are contact points, to the MDSC. Most of these actions should be processed during the pay period in which they are effective.

2. Receipt of Documents. All documents will be received in the Control Division of the MDSC. This Division will maintain a directory of all employees paid by the MDSC. The directory will show the name, social security number, and organizational code of each employee. The organizational code will be keyed to a pre-established payroll work block. This will facilitate the flow of documents to the clerks who are to process them. In some cases, only the major payroll block will be known until the first time and attendance report for a new employee is received. When these documents are received in the Control Division, they will be screened for social security number and organizational designation. All documents that do not contain the social security number of the employee and the organizational code will be screened against the directory to obtain the missing information.

Documents that do not show the social security number and organizational location of employees, SF-50's for new employees and SF-52's for changes in name, and documents showing a change in the organizational location of employees will be sorted from the other documents. All other documents will be sorted by payroll block and sent to the Processing Division.

The control clerks will update the directory for new employees and for employees whose name or organizational location has changed.

3. Assignment of Temporary Employee Numbers. A temporary control number will be assigned to new employees if the SF-50 does not show a social security number. This number will contain zeros as its first three digits and be obtained from a control register maintained in ascending numerical sequence. The number will be entered in the appropriate block of the SF-50 and will be used in the directory until the social security number is obtained. If the SF-50 does not indicate that a social security number will be submitted later, the Control Division will write to the personnel office requesting that the social security number be obtained. A copy of the letter will be placed in a tickler file.



## SYSTEM IMPROVEMENT

If social security number is missing from required documents within the transmittal, a number could be generated in the computer run. A suspense card could be created in the computer run for control purposes in insuring that a social security number is promptly secured for new employees. When a correction is entered to establish the new number, a credit card to eliminate the suspense card should be prepared in the computer run. The DPC then would work against the card suspense file each processing cycle and maintain it on a current basis.

4. Distribution and Filing. After the directory has been updated and missing control numbers obtained or assigned, the documents will be sorted by payroll work blocks and forwarded to the Processing Division.

5. Sorting by Type of Action, Establishing Control Totals, and Processing Documents. The documents will be distributed by block to the processing clerks who will sort them into the following groups.

1. SF-50 for accessions
2. SF-52 for separations
3. SF-52 for all other changes, such as reassignments and reclassifications.
4. TD-2254, Authorization for Purchase of U.S. Savings Bonds and TD-2254 A, Request for Change in Payroll Savings Allotment
5. SF-2810, Notice of Change in Enrollment Status Health Benefits
6. SF-2809, Health Benefits Registration
7. W-4, Employee's Withholding Exemption Certificate
8. SF-1150, Record of Leave Data Transferred

Before processing, all separation documents will be supported by AD-139, Final Salary Payment Report, which will indicate whether any set-off against final salary is required. Separations will be entered into the system as received. Controls will be established to prevent an employee being paid for time subsequent to the date of separation. These documents will be processed with the current payroll unless special circumstances warrant scheduling on a supplemental payroll. Any bond balance, lump sum payment, or any required set-off will be included with the regular salary payment.

If a new employee has transferred from another Federal agency, the clerk will request that agency to submit a SF-1150. A follow-up file will be maintained.

The clerk will screen the documents for completeness and see that all supporting documents are attached and that they are ready for processing. Any required coding will be done by the clerk. As sufficient documents accumulate the control clerk will establish control totals as follows:

1. SF-50, SF-52, and AD-294, for accessions or separations - number of employees and rate of pay. Annual salaries will be used as rate of pay except for consultants and wage board employees, for whom either the daily or hourly rate of pay will be used.
2. SF-52, AD-294 for all other actions — number of employees and new rate of pay for actions affecting salary.
3. TD-2254 and TD-2255 A — number of employees, amount of new deduction.
4. SF-2809 — number of employees and enrollment code.

5. SF-2810 -- number of transactions (employees added, dropped and adjusted) and new enrollment code.
6. W-4 -- number of exemptions claimed and amount of additional withholding.
7. SF-1150 -- leave ceiling, annual leave balance, sick leave balance, LWOP during current year, LWOP since last periodic step increase, military leave granted during current fiscal year.

After the adding machine tape totals have been made, like groups of change documents will be consolidated (if the volume warrants) and a batch control sheet prepared. The payroll block number will be inserted on the batch control sheet which will reflect in summary the various control totals prepared by the clerks. The batch control sheet will be attached to the change documents and sent to the DPC for processing.

#### SYSTEM IMPROVEMENT

Documents can remain intact with the transmittal. This would provide a document package, always maintaining its identity to the transmittal under which it was submitted. A "working" transmittal could be prepared in the MDSC to package documents received from individuals. This principle would permit simplification of filing documents and provide a better means of locating documents on which inquiries may be received. Also, it would eliminate the need to sort documents for preparation of punched cards. Several types of input cards would be punched from the same package. Handling and filing cost would be reduced.

The Control Division of the MDSC could indicate by checking appropriate blocks on transmittals received from offices, whether or not the Processing Division should review and/or code supporting documents. This would permit the bulk of documents to be processed in a normal manner. Those with apparent discrepancies would be given special attention for a more comprehensive check-out.

6. Correcting Discrepancies. After the required information has been converted to punched cards, the documents will be returned to the Processing Division where they will be held. A report of any discrepancies detected by the computer system between the summary control totals and the individual punched data will be sent to the Processing Division for appropriate action. Adjustments will be made to correct any discrepancies.

7. Processing Separations. The final salary, including bond balance, lump sum payments, if any, less any set-offs, will be computed. The DPC will prepare a listing of separated employees, prepare W-2, and print out updated retirement information. The listing and documents will be routed to the Processing Division. The clerks will match the current SF-2806, Individual Retirement Record, with another SF-2806 on file. The SF-2806 will be certified and an SF-2807, Register of Separations and Transfers, will be prepared. The retirement records and the register of separations will be sent to the Civil Service Commission. All other actions required in connection with Group Life Insurance or Health Benefits will be taken simultaneously.

For separations due to transfer of an employee to another Department, no lump sum leave will be paid. The DPC will prepare a leave transfer record that will be held on file in the Processing Division until a request for the information is received from the other agency.



Death cases will be given special handling. The DPC will be instructed to print out the master record of deceased employees. The master record print-out will show the computed final salary, including bond balance and lump-sum payment, if any, less any required set-offs. This information will enable the clerk to determine the amount to be paid. A claim that does not involve questions as to (1) claimants being entitled to the proceeds, (2) law, or (3) fact will be scheduled on SF-1166, Voucher and Schedule of Payments, supported by SF-1154, Public Voucher for Unpaid Compensation Due a Deceased Civilian Employee. Any claims involving such questions will be submitted to the General Accounting Office for settlement. (If no claim has been filed, the appropriate Personnel Office will prepare a letter to the spouse or designated beneficiary requesting that a claim be submitted.) When such a claim is paid, either on SF-1154, or after settlement by GAO, an adjustment document will be prepared to update the earnings records for cumulative gross pay for the year, tax deductions, retirement deductions, and to cancel out any bond balance. The processing clerk will pull the SF-2806 from the file, match it with the SF-2806 printed from the machine, and make appropriate notations regarding health benefits. The SF-2806 will be certified and included on the SF-2807. The W-2 prepared by the DPC will be revised to exclude any gross earnings related to returned checks, the net amounts of which were paid to the beneficiary in settlement of the claim. TD-1099, Information Return, will be issued to the beneficiary covering the amount paid. All other actions in connection with group life insurance and health benefits will be taken promptly.

#### E. Time and Attendance Reports

1. Type of Form. For most of the Department's employees the time and attendance report will be a punched card form generally corresponding with the current Time and Attendance Report, SF-1130. However, a special time and attendance report will be devised for some agencies to incorporate additional data presently being provided for. This form will not be in punched card form because of the amount of information required. The rate of pay will be shown on the forms and will be used in establishing control totals.

Upon completion of the payroll, the punched card and the special time and attendance forms will be printed from magnetic tape to show: social security number, name, salary rate, pay period, block number, distribution code. In the printing process, these forms will be grouped by distribution code to facilitate delivery to the timekeepers.

#### SYSTEM IMPROVEMENT

Information prescribed for the employee earning statements could be added to the time and attendance reports, resulting in significant savings in preparation and distribution.

2. Mailing the Time and Attendance Reports. These forms will be mailed to the timekeepers by the Control Division.

Bulk mailing to a given destination will be transmitted as a package in reusable containers (where volume warrants). The reusable containers will be used in returning the completed time and attendance reports to the MDSC. They will provide for easy and accurate addressing and identification.

After the timekeepers have completed the time and attendance reports for a given pay period, they will submit the original directly to the MDSC. On new employees for whom a preheaded time and attendance report was not received, the timekeeper will prepare a blank time and attendance report showing all required information including

the employee's social security number. The timekeeper will retain copies of all time and attendance reports for reference purposes.

3. Receipt and Distribution at the Center. The time and attendance reports will be received in the Control Division in preaddressed envelopes or containers with the payroll block number indicated on the outside of the envelope. The Control Division will distribute the reports to the processing clerks according to block assignments. Each processing clerk will be responsible for payrolling employees assigned to a particular block.

4. Listing of Employees. After the payrolls for the pay period have been processed, a tabulation of employees not paid that pay period will be received for determination of reason for nonpayment.

5. Review of Time and Attendance Reports. Upon receipt of the time and attendance reports the processing clerk will review them for adequacy of input information and will group the reports between those that show only 80 hours in duty status (no leave), and all others.

6. Establishing Predetermined Controls. The clerk will establish predetermined control totals for each of the processing groups. The time and attendance reports, with the block control totals, will be routed to the Unit Supervisor.

The predetermined controls will consist of adding machine tape totals of the following:

- a. Total: Regular hours worked  
O/T hours worked  
N/D hours worked  
Holiday hours worked  
Compensatory hours worked
- b. Total: Annual leave hours used  
Sick leave hours used  
Other leave hours used
- c. Total: Rates of Pay

These totals will be inserted on a summary block control sheet and routed to the DPC with the time and attendance reports. After cards for the individual time and attendance reports and the control sheet have been punched, the cards will be processed through the computer and a print-out provided for batches not in balance. The print-outs will go back to the Processing Division with the respective time and attendance reports for reconciliation and adjustment.

#### F. Payroll Scheduling and Certification

After the payroll has been processed, a tabulation will be furnished to the Accounting Division showing the total expenditures by accounting stations. In addition, the schedule will show the amounts of employees' deductions and employer's contributions for preparation of the schedules on SF-1166 and for posting to the General Ledger Accounts maintained at the MDSC. Also, a tabulation of the control totals from the predetermined control sheets and the totals from the DPC will be checked for agreement before preparing the SF-1166. After the totals have been reconciled a summary SF-1166 will be prepared showing gross expenditures, net pay to employees, amount payable to the Civil Service Commission, and the amounts to be deposited in the tax



and bond deposit accounts. The gross expenditures total will be inserted in the appropriation summary block and will agree with the sum of the gross expenditures on the tabulation by accounting stations. A statement will be placed in this block indicating that a breakdown by accounting stations to be charged is attached. The amounts to be deposited into the deductions accounts will show the accounting station code for the MDSC. The SF-1166 will be certified for payment by the authorized certifying officer in the Accounting Division. The original and one copy of the SF-1166, along with the supporting attachment and the check issue tape, will be sent to the disbursing office for issuance of the checks.

### SYSTEM IMPROVEMENT

A code could be included in the master payroll records for individuals who submit their own time and attendance reports. Individuals failing to send in their reports would be indicated on the supplemental payroll discrepancy list, showing the employees not paid on the regular payroll run.

An exception basis could be used in processing the supplemental payroll. Rather than require cards for all persons to be paid, cards would be needed only for (1) those individuals to be paid even though leave and retirement balances are not sufficient to cover payment and (2) those who have sufficient balances but are not to be paid. All others would be paid if they have sufficient balances to cover the amount of payment. This would be determined in the computer run itself.

Payroll reconciliation could be accomplished in the computer system. A statement would be prepared reflecting all changes from previous payroll indicating register number and type of change.

#### G. Check Distribution

The check issue tape furnished to the disbursing office will indicate the check distribution code or the mailing address, as appropriate. The checks will be mailed by the disbursing office direct to the individual or designated agent indicated.

#### H. Savings Bonds

The DPC will furnish a listing, by denomination and effective date, of individual bond accounts that have accumulated the purchase price of bonds. The listing will be furnished to the Accounting Division upon completion of the processing of the payroll. On the basis of this listing the SF-1166 will be prepared and certified to purchase bonds in the amounts indicated on the listing. The SF-1166 will be sent to the Treasury Department with a Bond Schedule Tape which will identify each purchase by denomination and effective date. The Treasury Department will distribute savings bonds in the same manner as salary checks. A copy of the listing will be retained at the Center in support of the bond purchase.

This system will eliminate the maintenance of addressograph plates or punched cards by the Treasury Department.

## I. Leave

The programming of leave record information into the system will eliminate the need for mathematical checking of leave balances. The required input and output of the system are as follows:

1. Input. Input from the time and attendance report will provide hours of compensatory time earned; hours of absence on LWOP; and compensatory, annual, sick, military, home, or other leave used.
2. Biweekly Output. Leave data for each employee each pay period (on the Employee's Earning Statement) showing in hours:

(1) Annual leave data as follows:

- (a) Prior year balance
- (b) Taken to date
- (c) Accrual to date
- (d) Maximum carryover
- (e) Use by end of year or forfeit
- (f) Balance at end of pay period

(2) Sick leave data as follows:

- (a) Prior year balance
- (b) Taken to date
- (c) Accrual to date
- (d) Balance at end of pay period

(3) Leave without pay data as follows:

- (a) Taken during current leave year
- (b) Taken since last periodic step increase

(4) Compensatory time balance at end of pay period

(5) Military leave used during current fiscal year

### SYSTEM IMPROVEMENT

This leave data could be included on the revised time and attendance report. See system improvement following Paragraph III E 1.

3. Annual Output. At the end of the fiscal year the system will provide each accounting station with the dollar value of (1) accrued annual leave and (2) unused compensatory time as of the close of the last full pay period in the fiscal year.

## J. Retirement Records

Initially, the last personnel action and fiscal retirement data, (prior year deductions and current year deductions) will be entered on the retirement master tape. The hard copy of the SF-2806 will be filed in the Control Division. Periodically, the retirement master tape will be updated to reflect current deductions to be added to the prior year

deductions for each employee. Service history data will also be accumulated on the retirement master tape. If an employee separates from the Department, all required fiscal and service history data will be printed in the format of SF-2806 for transmittal to the Civil Service Commission. Under this method, manual postings to the SF-2806's will be eliminated.

Retirement records for "cooperative" employees (for example, State Extension Service employees) covered under Civil Service Retirement, who transfer to the Department will require special handling. The certified SF-2806 will be sent to the MDSC by the USDA-cooperating agency. Initially, the service history data for the new appointment and the total prior year deductions (including current year deduction to the date of transfer), will be entered on the retirement master tape. Thereafter, service history and current year deduction data will be entered currently.

Processing Disability Retirement Applications. In most cases an application for retirement based on total disability will be filed by the employee before separation. In such case, the SF-2806 must be obtained (by a print out of the retirement record to date) and certified as of the close of the previous calendar year. The retirement record on the master tape will be flagged to indicate this action. The retirement record, with the retirement application and the SF-2807, will be sent to the Civil Service Commission. Retirement deductions will start anew as of the current year. If disability retirement is approved, a SF-50 will be processed as for other separations and the "final" retirement record will then be sent to the Civil Service Commission.

#### K. Health Benefits

Under the proposed system the data required for health benefits information will be produced automatically from certain input forms SF-2809, Health Benefits Registration, and SF-2810, Notice of Change in Enrollment Status. The following is a description of the processing procedure:

##### SF-2809

The Processing Division will:

1. Review for enrollment code, payroll office number, and effective date.
2. Complete payroll action block.
3. File original alphabetically within payroll blocks.
4. Establish control totals on enrollment code and carrier control numbers. Route duplicates and control totals to DPC.

##### SF-2810

The Processing Division will:

1. Check Block A (Identifying Data), organization code, correct completion of change information, signature, and date.
2. Establish control totals on (1) enrollment code number, and (2) number of transactions (added, dropped, and adjusted). Route duplicates and control totals to DPC.



Output from SF-2809's and SF-2810

1. Adjusted master pay record
2. SF-2811, Transmittal and Summary Report to Carrier, produced bi-weekly

a. Transmittal Data. Use SF-2809 and SF-2810 input and carrier summary to tabulate by carriers, for use in preparing SF-2811.

- (1) Number of 2809's processed
- (2) Number of 2810's processed
- (3) Enrollees covered last report
- (4) Number of enrollees added
- (5) Number of enrollees dropped
- (6) Number of adjustments
- (7) New total of enrollees covered (summary record)

b. Summary Report of Number of Enrollees. Print out

- (1) By carrier and enrollment code - the number of enrollees from whom deductions were withheld
- (2) By carrier and enrollment code - the number of enrollees from whom deductions were not withheld
- (3) Total enrollment for each enrollment code

3. SF-2812, Report of Withholdings and Contributions

Biweekly. Print out for the report on SF-2812 (which must include data for all payrolls processed during the pay period):

- (1) Combined health benefits withholdings and contributions by enrollment codes with grand total of such withholdings and contributions.
- (2) Total health benefits withholdings
- (3) Total health benefits contributions
- (4) Total life insurance withholdings
- (5) Total life insurance contributions
- (6) Total life insurance contributions and withholdings
- (7) Total retirement withholdings
- (8) Total retirement contributions
- (9) Total retirement withholdings and contributions
- (10) Grand total of all withholdings and contributions



Semiannually. In addition to the usual biweekly detail (see above) print out semiannually:

Number of covered employees that pay period:

- (1) From whom life insurance deductions were withheld
- (2) From whom life insurance deductions were not withheld
- (3) From whom retirement deductions were withheld
- (4) From whom retirement deductions were not withheld

The duplicate copies of 2809 and 2810 will be returned from the DPC to the Accounting Division with data required for preparation of the reports on SF-2811 and SF-2812.

The Accounting Division will prepare SF-2811 and the SF-2812. The SF-2811's will be sent to the carriers. The SF-2812 will be sent to the disbursing office for mailing (with the check) to the Civil Service Commission.

L. Unemployment Compensation Information - Requests for Wage and Separation Information

The clerks in the Processing Division will handle all requests for individual wage and separation information from State agencies. The wage information will be obtained from the microfilm records of the pay-this-period listings. Other information needed to complete these requests will be obtained from the separation document.

The service and wages reported to a State on Request for Wage and Separation Information, ES-931, are deemed to be assigned to that State. Wages may be assigned only to one State. In the absence of individual earnings records, notations on which were used to forestall assignments of the same wages to more than one State, the completed ES-931 file will serve as a control.

As the requests for wage and separation information are received, a "chargeout" card will be prepared for each request. The control clerk will enter on the chargeout card the employee's name and account number and the State requesting the information. If no prior ES-931 is on file, the chargeout card will be filed in employee number sequence. The ES-931 will be sent to the Processing Division for return to the State. After the 931's have been completed a copy will be filed and the chargeout cards will be removed. If a chargeout card is already on file, the control clerk will determine which processing clerk has the first request and send the second request to the clerk for handling.

Requests for Verification of Wage and Separation Information, ES-936, will be handled by the Processing Division and copies of the completed forms will be filed with the original ES-931.

SYSTEM IMPROVEMENT

Records of separated employees other than those transferring to another Government agency will be kept on tape. Data required to complete forms ES-931 and ES-936 would be obtained from this tape file by entering inquiry cards into the system punched from form ES-931.

## M. Collections

The Accounting Division will handle collections for salary overpayments and lump sum refunds; prepare SF-219, Certificate of Deposit; and will be responsible for depositing collections currently. A separate AD-84, Schedule of Collections, will be prepared for each headquarter's accounting point covering collections credited to its appropriations. Under the appropriation number to be credited, the allotment code will be shown in parentheses. All collections deposited to the "Miscellaneous Receipts Accounts" will be scheduled on an AD-84 bearing Office of the Secretary as the accounting point. Adjustment documents will be prepared for each item as required to adjust any master payroll tape totals affected by the collections.

The Accounting Division will schedule returned salary checks for cancellation on Schedule of Canceled Checks, SF-1098, or SF-1185, Schedule of Undeliverable Checks for Credit to Government Account. The schedule will show the accounting station code, the appropriation, and the allotment code to be credited for each item. Adjustment documents will be prepared for each item to adjust the cumulative totals on the master payroll and budget tapes.

Levies for delinquent taxes by the Internal Revenue Service, on the salary of an employee will be handled by the Processing Division. The levies will be processed on the current payroll as adjustments to net pay. The levy amount will be recorded as "Other" deductions. A control record will be maintained to assure payment to the Internal Revenue Service for each levy collected.

The Accounting Division also will maintain controls over collections from employees for other amounts due to the U. S. Government. Some of these debts may be collected by regular salary deductions. The payroll master file will be updated to reflect the required deduction each pay period until the debt is collected.

The Processing Division will receive the adjustment documents on collections of cash refunds, returned salary checks, and debt retirement deductions and enter them into the regular process for updating the payroll and budget master file.

## N. Accounting - General Ledger

The Accounting Division will maintain general ledger accounts for payroll deductions, i. e., Federal Income Tax, FICA tax, State tax, bonds, and retirement. The accounts for Federal tax, State tax, and bonds will consist of a deposit (normally a debit balance account) for each of the deposit accounts. The posting media will consist of a copy of the document that is transmitted to the disbursing office authorizing the disbursement from or deposit to the respective account. General ledger deposit and offsetting liability accounts will not be required for CSC Retirement, FEGLI, and FEHBA accounts, since deposits are no longer made by the agencies but are paid currently with the payment of the payroll.

It will be necessary also to maintain statistical or memorandum accounts for retirement deductions to control the balances in the individual employee accounts. These accounts will consist of the following:

1. Reciprocal Account - CSC. Debit balance account posted from SF-1166 and SF-2807. Represents the balance of retirement deductions (prior year and current year) to the credit of all current employees subject to retirement.



2. Retirement Deductions - Prior Periods. Credit balance account posted from SF-2807, or journal voucher closing out the balance from the current year account at the end of each calendar year.
3. Retirement Deductions - Current Year. Credit balance account posted from SF-1166, SF-2807 or journal voucher closing the balance into prior periods account at the close of each calendar year.

The required general ledger accounts for general fund receipts will also be maintained by the Accounting Division to cover such miscellaneous receipt items as jury duty.

Other general ledger accounts for the operations of the MDSC will be maintained by the Office of the Secretary in the same manner as for other organizational units of his office.

#### O. Reports

The MDSC will furnish all accounting data and reports required by the agencies, accounting stations, and allottees or other organizational locations pertaining to pay, leave, retirement and taxes. Such data and reports will include, but are not limited to, biweekly reports of gross and overtime pay normally required for the liquidation of obligations; monthly reports of accounting data by appropriation, allotment, or work plan; quarterly reports of Federal, State, or FICA taxes; and annual reports of the value of accrued leave, State and Federal taxes, tax statements, and retirement.

#### P. Records Management

Records management operations for MDSC rest with the Control Division.

Provisions have been made for files to be maintained at the point at which needed for the expeditious handling of the type of transactions involved.

Information regarding the filing and disposition of the major types of documents follows:

1. SF-50 and SF-52 will be filed and maintained by the processing clerk responsible for the block to which the employee is assigned.
2. Individual Retirement Record, SF-2806, for current employees will be maintained alphabetically in locked fireproof cabinets in the Control Division.
3. Time and attendance reports for each pay period will be retained by the respective processing clerk until the audit for the following pay period is completed. The time and attendance reports will then be microfilmed for reference purposes and shipped to GSA Federal Records Center for storage.
4. Forms W-4 will be filed alphabetically in the Control Division. Annually W-4's will be microfilmed and shipped to Federal Records Center for storage.
5. Forms TD-2254 will be filed alphabetically in the Control Division. Periodically (as volume warrants) they will be microfilmed and shipped to Federal Records Center for storage.
6. Employees Withholding Certificates for State income taxes will be filed alphabetically by State in the Control Division. Annually they will be microfilmed and shipped to Federal Records Center for storage.

7. Record of Leave Data Transferred, SF-1150, will be filed alphabetically in the Control Division. As volume warrants, they will be microfilmed and shipped to Federal Records Center for storage.
8. Health Benefits Registration, SF-2809, and Notice of Change in Enrollment Status, SF-2810, will be filed alphabetically by enrollment code in the Accounting Division. As volume warrants, inactive or closed files will be transmitted to Federal Records Center for storage.
9. Copies of all accounting and budgetary reports will be filed in the Accounting Division. These reports will be maintained for the minimum period required and then destroyed.

#### SYSTEM IMPROVEMENT

By applying the principle of filing documents in a package by transmittal, filing of individual input documents would be eliminated. Registers prepared by the system would bear the transmittal reference for an audit trail to the basic documents.

#### Q. Savings Through Operation of Centralized System

Some of the areas of significant savings include those resulting from:

1. Eliminating the cost of preparing and handling certain documents now required when an employee transfers between agencies of the Department:
  - a. SF-2810 now being prepared for transfer of employees covered by health benefits.
  - b. SF-1150, Record of Leave Data Transferred.
  - c. SF-2807, Registers of Separation and Transfers, for retirement record transfers, and the necessity for updating individual retirement accounting data on SF-2806.
  - d. Forms W-2 for income tax reporting and State tax reporting forms.
  - e. Cancelling out and reestablishing authorizations for bond purchases, TD-2254.
  - f. W-4, Employee's Withholding Exemption Certificate.
2. Eliminating cost of preparing the following forms and reports at each of the 87 present payroll offices. Some will be eliminated; others will be prepared at a single office.
  - a. SF-1166, Voucher and Schedule of Payment. Approximate volume of preparation of SF-1166 at the MDSC would be 10 per day period.
  - b. SF-1182, Subscriber List for Issuance of United States Savings Bonds, TD RO-258, Request for Reissuance or Cancellation of U. S. Savings Bonds.



- c. TD-941, Employer's Quarterly Federal Tax Return.
- d. W-3, Reconciliation of Income Tax Withheld from Wages.
- e. Payroll Savings Bond Report.
- f. Employer's Quarterly State Tax Return. The MDSC will prepare one report, for the Department, for each State each quarter.
- g. Employer's Annual State Tax Return. The MDSC will prepare one report, for the Department, for each State annually.
- h. SF-1128, Payroll for Personal Services, Payroll Certification and Summary. Eliminated completely.
- i. SF-1177, Addressograph Plate Notice-Savings Bonds. Eliminated completely.
- j. SF-2806, Individual Retirement Record. The required data (fiscal and service history) will be accumulated in the retirement master tape file. Upon separation of employee, and at other intervals, the SF-2806 will be prepared by the computer system.
- k. SF-2807, Register of Separations and Transfers. Approximate volume at the MDSC will be 10 per pay period.
- l. SF-2807-1, Register of Adjustments. Approximate volume will be 1 per pay period.
- m. SF-2807-2, Annual Summary Retirement Fund Transactions. One annual report for the Department will be prepared by the MDSC. Also eliminate present cost of consolidating agency reports.
- n. Quarterly Report of Federal Employment and Wages. One report for each State will be prepared by the MDSC quarterly.
- o. Supplemental Listing of Installations for Unemployment Compensation. One listing for each State will be prepared by the MDSC.
- p. SF-2811, Transmittal and Summary Report to Carrier (Health Benefits). One report for each carrier will be prepared by the MDSC each pay period.
- q. SF-2812, Report of Withholdings and Contributions.
- r. Certifying Officer. Consolidation of payrolling activities at a central location would eliminate the need for certifying officers located in the agencies who have only payroll certifying authority. (This affects bonding reporting requirements at agency and departmental levels.)
- s. Furnishing Annual United Givers Fund Information. The MDSC will produce a consolidated report whenever required.

#### IV. ITEMS RECOMMENDED FOR FURTHER CONSIDERATION

The following items include a number of significant areas worthy of further study and consideration with regard to the departmental system.

1. Funding for Personal Services Expenditures. This study has proceeded on the assumption that there would be a minimum of change in the method of funding for personal services expenditures by the agencies of the Department. The following is a brief description of the method that will be followed:

- a. Proposed Method. The proposed payroll system provides that each agency will be charged for personal services expenditures (including employer contributions) by the Treasury Department by the conventional means of SF-1166. An attachment to this form will instruct the disbursing officer to charge the appropriate agency accounting stations. Each accounting station will be furnished a tabulation each pay period reflecting all of the necessary information for posting to the agency's allotment ledger, subsidiary obligation and cost records, and general ledger; and for use in developing monthly TD-224, Statement of Fund Transactions. In addition, each allottee location (work plan, project, or other cost activity location) will be furnished all information necessary.
- b. Alternate Method. An alternate method of funding for personal services expenditures (including employer contributions) is recommended for consideration. It would require some change in the systems presently used by most of the agencies.

The Department would request the use of an unfunded account with the Treasury Department for use exclusively for personal services, each agency accounting station would transfer funds, from its appropriation or fund, to the departmental unfunded account each quarter. This will assure sufficient funds to meet the bi-weekly payrolls for the quarter. Each accounting station would be permitted to adjust its transfers to this account whenever necessary. This would permit the MDSC to process payrolls to the Treasury Department reflecting charges to a single office instead of to approximately 87 separate accounting stations for each schedule processed per day period.

The accounting stations would receive tabulations each pay period reflecting all of the necessary information to post their allotment ledger, general ledger, and subsidiary obligation and cost records. Under this system the accounting stations would develop TD-224 information from the documents effecting transfers to the unfunded account instead of from a biweekly expenditure tabulation from the MDSC. The certifying officer at the MDSC would have exclusive control over all payroll expenditures for the Department.

2. Transferring Retirement Records for Cooperative Employees. The Department has approximately 30,000 "cooperative employees." These employees work with State extension services, ASCS county offices, and milk market administration offices. They are covered under the Civil Service Retirement Program.

The present system provides that when one of these employees is appointed by the Department, it is considered as an intra-Departmental transfer and the retirement card is not sent to the Civil Service Commission.

It is suggested that such transfers should be considered as a termination and a new appointment, rather than a transfer, and the retirement cards be sent to the CSC.



3. Establishment of Regional Offices. An item that could be considered is a consolidation of nonpersonal service administrative payments at regional offices. When payrolling is done at the MDSC, consideration then could be given to the establishment of regional offices to provide administrative accounting service. Data could be sent between the MDSC and such regional offices on magnetic tape, thereby eliminating many of the reports prepared at the MDSC.

4. State Income Tax Deductions. The Department, in cooperation with the Treasury Department, should attempt to develop simplified formulas, acceptable to the States, for computing State income taxes. Several States now provide that a fixed percentage of Federal income tax withholdings or a fixed percentage of gross income be withheld for State income taxes. Adoption of a similar procedure by more of the States would materially simplify the payroll process in Federal agencies that use mechanized equipment for payrolling.

5. Bond Distribution. The proposed system is based on acceptance by the disbursing office of a tape for printing savings bonds and the elimination of review of the bonds issued by the payroll office. The Department should participate in the study understood to be underway by Treasury Department covering the system of issuance and distribution of savings bonds.

6. Leave Administration. The proposed system provides for forwarding to the MDSC all leave documents required in support of the time and attendance reports. The processing clerks will review the time and attendance reports and supporting document to assure compliance with laws and regulations and take whatever corrective action is necessary.

While it is recognized that the primary responsibility for leave administration (including the proper application of leave policies and regulations and accurate recording of leave taken) should and does rest at the local level, errors in recording of leave and interpretation of regulations do exist. These errors can result in the improper reporting of leave with resulting over- or under-payment to an individual.

Because of the complex regulations that govern leave administration, it was felt that processing clerks, by their familiarity with the type of errors commonly made, would be better able to detect errors. It should be emphasized, however, that the placement of review function in the MDSC in no way diminishes the primary responsibility of the local level for leave administration.

An alternative that should be considered is the assignment of complete responsibility for leave administration, including the retention of supporting leave documents, to officials at the local level, subject to review by internal auditors or other independent review.

If such a procedure were followed, the time required for review of time and attendance reports and supporting documents by the processing clerks would be substantially reduced. Under this alternative the certifying officer would be responsible for salary payments solely on the basis of a time and attendance report signed by the employee, timekeeper, or supervisor.

## COMPUTER SCHEMATICS

The Payroll and Accounting Application Area PADA uses one computer — the 705 III. Business type programs will be processed on the 705 III in New Orleans. A 1401 will be used for peripheral operations — card to tape, tape to card, and tape to print.

The 705 III computer program schematics and narratives were prepared by the System Design Work Group. These programs are responsive to the output of the system as developed for current operations and responsive to the Manpower Inventory system developed for future operations.

Under this system, the input documents will be forwarded to the Management Data Service Center from all of the agencies. Documents submitted by offices usually will be accompanied by a transmittal. Control totals will be included when prescribed. The MDSC will establish control totals for documents received without them. Transmittals with errors detected by the computer system will be returned to the MDSC for correction and resubmission to the Data Processing Center.

The initial master payroll file will be established from existing payroll and personnel records. After the master file is established, the principal input to the system for accessions will be the Notification of Personnel Action, SF-50. Personnel actions covering separations, changes in position, or name changes will be entered into the system from Request for Personnel Action, SF-52.

Other documents will contribute data to the record on such items as health benefits, savings bond purchases, and withholding exemptions. Once the record is established on the master payroll file, input to the system will consist primarily of the biweekly time and attendance reports and change documents as required.

Each office submitting documents to the MDSC will establish one or more contact points to handle time and attendance reports, change documents, and correspondence with the Center. Each contact point — usually a time and attendance clerk — will service a group of other time and attendance clerks. A large office will have a number of contact points. Documents to and from the Center for a specific segment of personnel will flow through a contact point. The contact points will forward documents weekly to the MDSC. Time and attendance reports will be submitted biweekly; change documents will be submitted weekly. This procedure will alleviate the workload at the end of the pay period when timing schedules will become more critical, while still maintaining a submission schedule that will allow the MDSC to know that all documents have been received.

From these input documents, cards will be punched and placed on tape for entry into the computer system. The cards will contain transaction codes along with pertinent data to allow the computer system to determine the proper action to be taken. For example, cards punched from the time and attendance reports will contain a transaction code which the computer system will recognize. These cards also will reflect data on hours worked, leave taken, overtime, night differential, LWOP, and other related information.

The input tape files will then be sorted to social security number for processing against the master payroll file. Since the master file is maintained in this sequence, all employees will need a social security number. If documents are received on new employees without the number, a temporary control number will be assigned and used until the proper number can be obtained. Assignment of temporary numbers will be strictly controlled and corresponding records will be kept together at the beginning of the master file until the proper number is determined. Then the record will be placed in its proper position in the file. The self-checking number feature



will be used in recording the social security number to insure that it is correctly punched and to eliminate the need for any further verification.

Keeping the master file in social security number sequence will minimize any shifting of personnel from one place to another on the file. An employee can change from one agency in the Department to another without changing position on the master tape. Any changes that will affect the payroll will be made on the master file before the payroll data is computed. Computation of the payroll will be based on the time and attendance data and factors in the master payroll record. Cumulative totals in the master file will be updated and a new master file created.

From this system, tapes will be obtained for transmittal to the disbursing office for machine preparation of checks and bonds, as well as tapes for Bureau of Old Age and Survivors Insurance (OASI) on FICA contributions. In addition, listings will be prepared and furnished to the MDSC from which accounting data on payroll, bonds, deductions, withholdings, and contributions will be obtained. The MDSC will establish and maintain the required General Ledger and memorandum accounts concerning these activities. After listings have been reconciled with predetermined control totals, the payroll and bond accounts will be certified and the certifications, along with the tapes, sent to the disbursing office for issuance of the checks and bonds. Pertinent listings will also be furnished for transmittal to agency accounting points. Other outputs will include statements of earnings, leave, and time and attendance reports for the pay period following the current one. These reports also will flow through the contact points.

The normal cycle for processing will follow the biweekly pay period. However, supplemental payrolls can be processed between scheduled updatings, if required. It will not be necessary to use the master file for the supplemental runs. Thus, computer time will be reduced.

Other information will flow from this system to provide necessary data for monthly, quarterly, annual, and as-required reports. This information will be extracted from the system as needed or desired by indication to the computer programs. Leave category changes, periodic step increases, and longevity increases will be generated by the computer.

Under the integrated system approach, data for the personnel and retirement files will be introduced into the system through the payroll and accounting application. Records that pertain solely to specific files will be so coded and immediately separated from the payroll and accounting data in the form of tapes for subsequent entry into the respective applications. Other items that affect both the payroll and accounting application and one or more of the other applications will be used to update the payroll master. Then the pertinent information will be made available on tape to the other applications.

#### NARRATIVE PADA 009

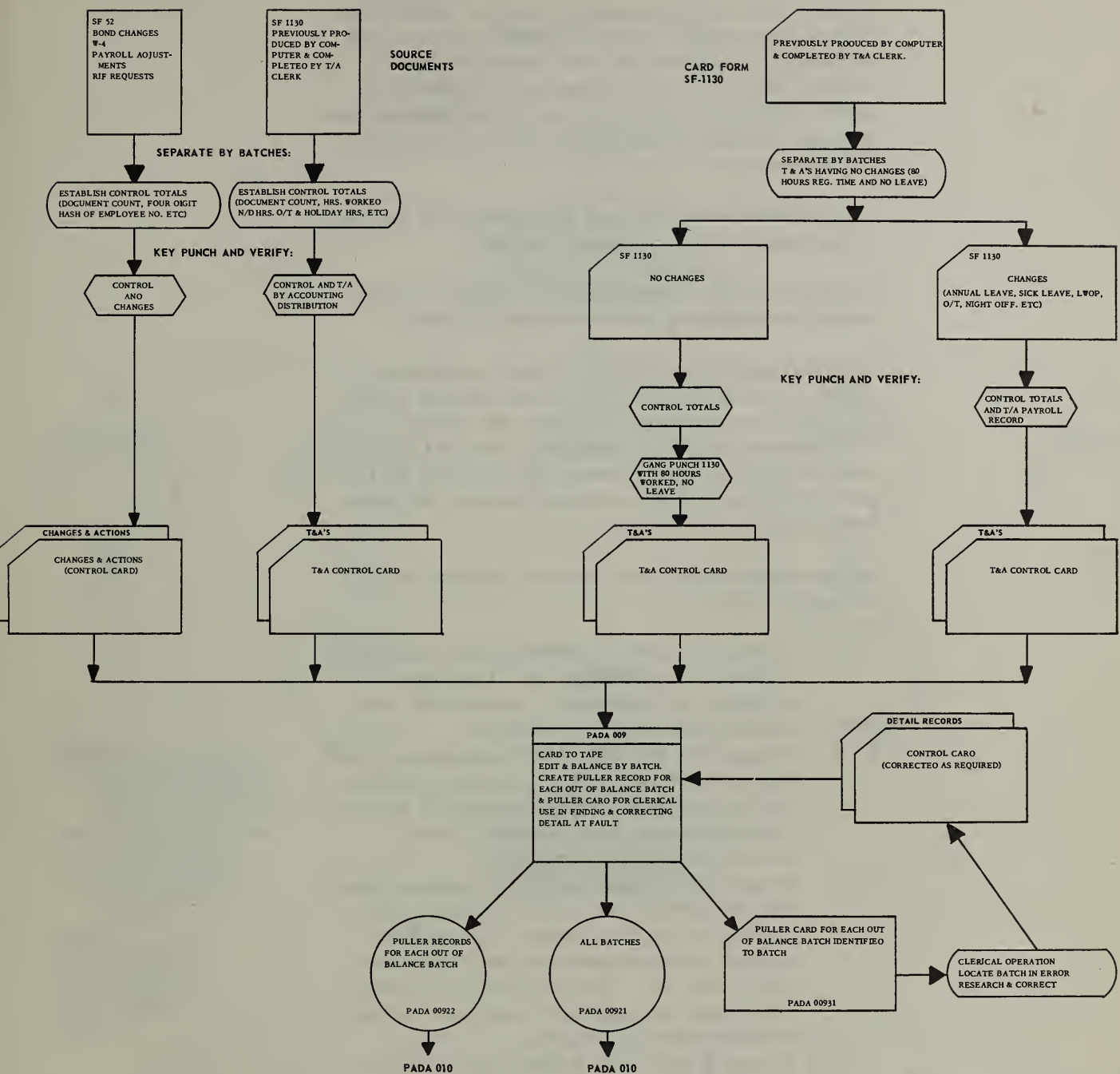
This 1401 program, in addition to converting the punched cards to magnetic tape, will edit and balance each batch. Batches not balancing to the predetermined transmittal total will be noted by two methods. First, a punched card will be produced for use by the clerical staff in identifying the batch to facilitate locating the source documents and cards. Second, a record will be written on tape identifying the batch that is out of balance. In a subsequent program, this record written on tape will eliminate from further processing the detail records in that batch. After correction of batch errors, the cards will be re-entered to the system through this program.

#### NARRATIVE PADA 010

This program is multi-purpose. First, it will delete all incorrect records and out-of-balance batches. The records in error were previously identified in PADA 009. Second, it will sort accepted data to transaction code within employee number sequence. It will separate accepted data into four categories as follows:

1. Retirement activity and inquiry records not related to payroll (PADA 01092).
2. All activity which affects the payroll (PADA 01091).
3. All activity affecting the personnel management file (PADA 01093).
4. All activity affecting the classification and position file (PADA 01094).

An individual record may appear on anyone or more of the above files. The placement of a record is determined by the computer.





## NARRATIVE PADA 020

This program will generate data for use in each of the three major areas--payroll, budget, and personnel. Much of the data, such as base salary, and leave accumulation, is generated within the computer program. This reduces the amount of data that will be required on the input documents.

Accumulated salary costs are developed for use in the budget and accounting areas.

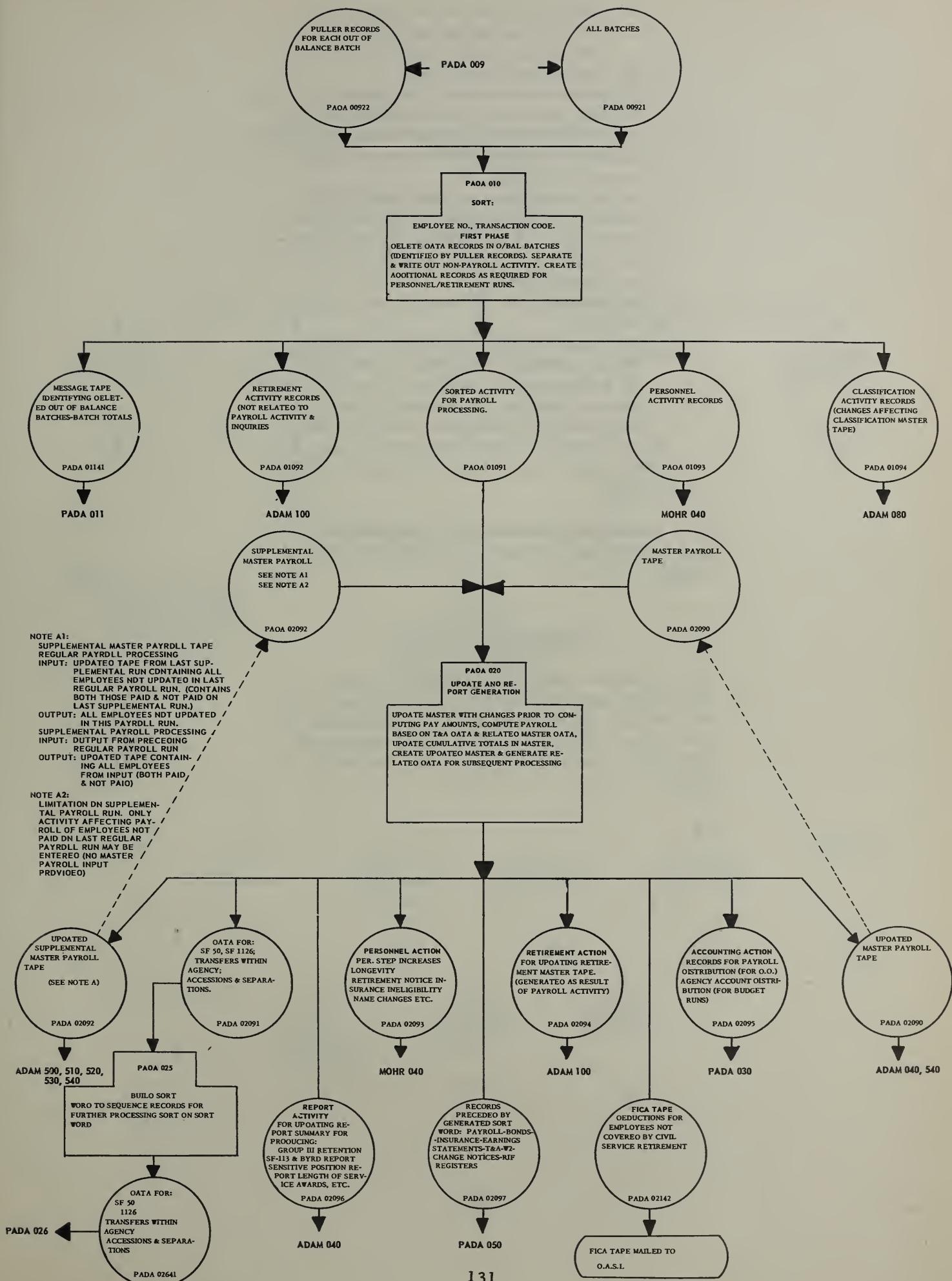
Personnel data is generated for reporting purposes and updating the Personnel Master.

It is planned to payroll only those employees for whom a T & A is received by the cut-off date. It is anticipated that employees for whom T & A's are received after this date will be paid through a supplemental payroll that will be processed during the interim between the regular payrolls.

As standard output, the run will produce the following data:

1. A tape file (PADA 02091) from which the Payroll Change Slip, SF-1126, and schedule of transfers, accessions, and separations will be produced.
2. A tape file (PADA 02096) containing data from which the report summary master can be updated for preparation of various required monthly, quarterly, semi-annual, and annual reports.
3. A tape file (PADA 02093) containing data for preparation of notices of personnel actions to be taken within a specified period, such as periodic step increases, longevity, etc. The program will internally generate periodic step increases and longevity increases.
4. A tape file (PADA 02094) containing retirement action data generated as the result of payroll activity.
5. A tape file (PADA 02097) containing data for the preparation of
  - (a) Earnings statements
  - (b) T & A's
  - (c) W-2's
  - (d) Payroll data for transmittal to the originating office and the Treasury Disbursing Office



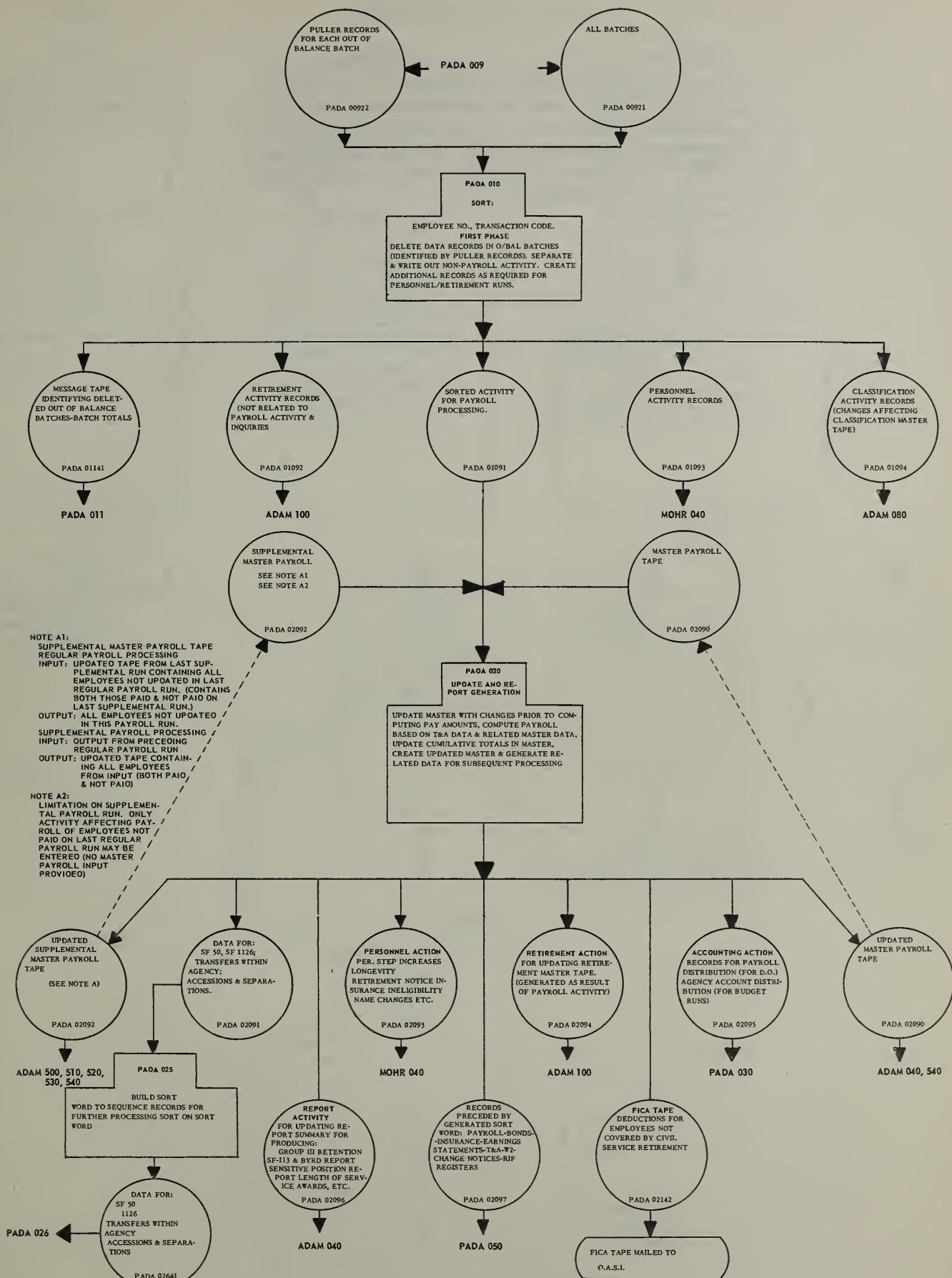


- (e) Savings bond data for transmittal to the originating office and to the Treasury Disbursing Office
- (f) Health insurance data
- (g) Reduction-in-force register
- 6. A FICA tape file (PADA 02142) containing deductions for employees not covered by Civil Service Retirement for submission to OASI.
- 7. An accounting action tape file (PADA 02095) containing data for payroll distributions to be submitted to the Treasury Disbursing Office and to agency accounting points.
- 8. An updated payroll master file (PADA 02090).
- 9. The supplemental payroll file (PADA 02092) contains individual records for all employees not paid this period. This feature permits supplemental processing to payroll all employees within a payroll period but will not require processing the entire payroll master tape a second time.

On a subsequent processing the supplemental records will be returned to the Master Payroll tape.

#### NARRATIVE PADA 025

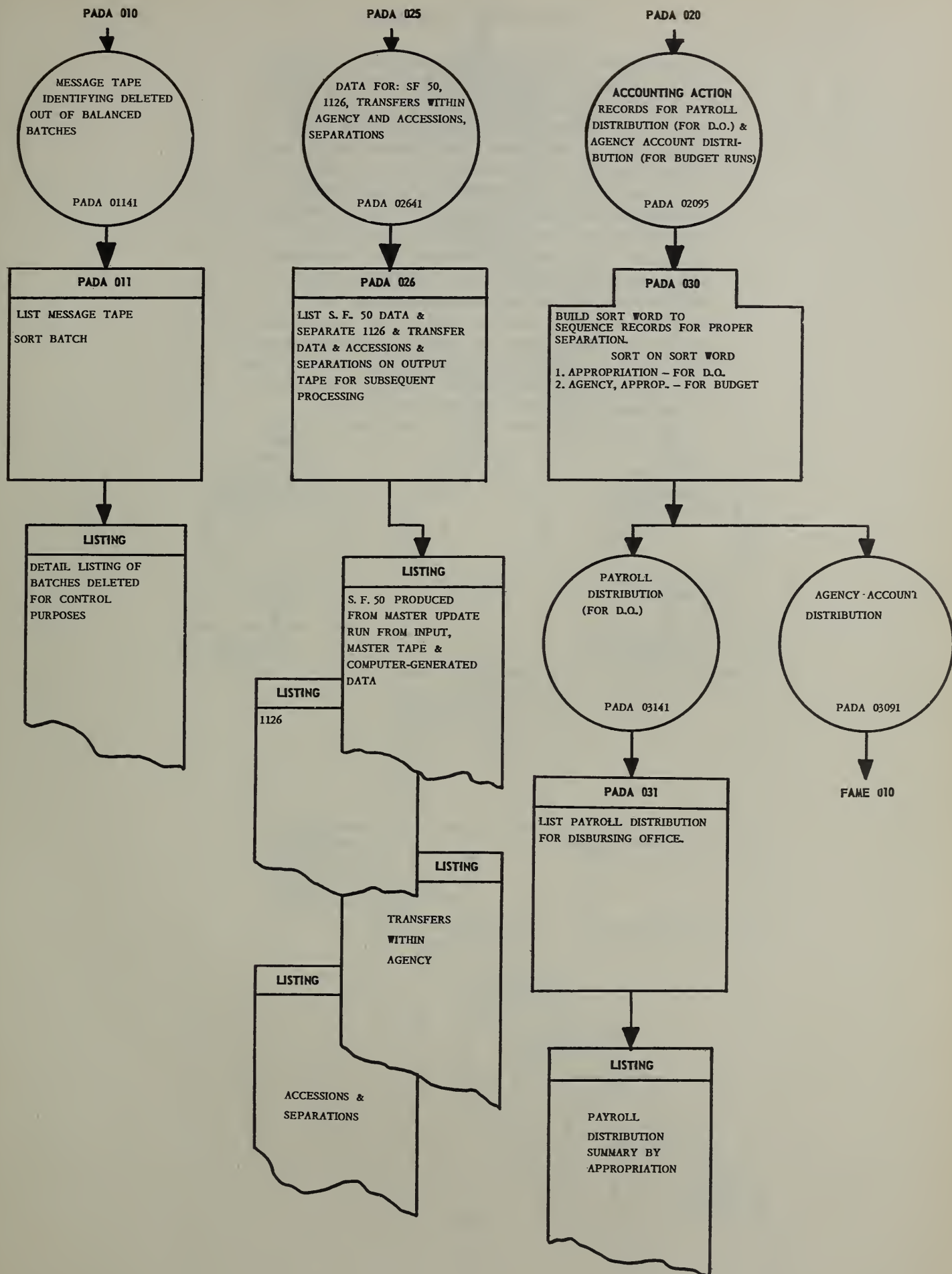
This program will accept records produced in PADA 020 and sort them in proper sequence. It will prepare print tapes for the Notification of Personnel Action (SF-50), Payroll Change Slip (SF-1126), transfers, accessions, and separations.



# NARRATIVE PADA 030

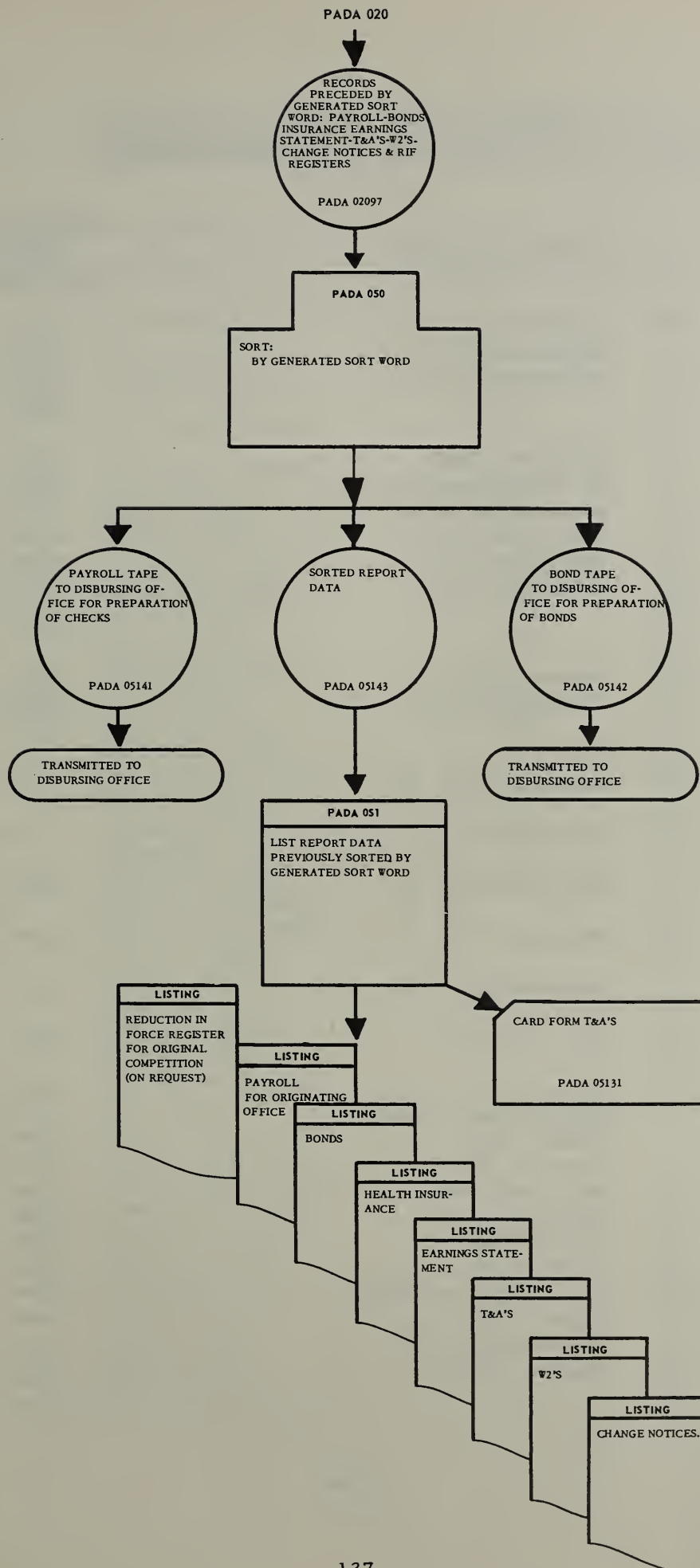
This program will accept the accounting action tape file (PADA 02095) prepared in PADA 020. The data will be sorted and separated into two tape files. The first will be used in listing the payroll distribution for the Payroll Disbursing Office. The second (PADA 03091) will be used as input to FAME 010.





# NARRATIVE PADA 050

The purpose of this program will be to sort and separate the tape file (PADA 02097) containing the earnings statement, T&A, W-2, etc. This program will produce a check issuance tape (PADA 05141) which will be transmitted directly to the Treasury Disbursing Office. A report data tape (PADA 05143) will be prepared containing the earnings statement, Federal Report of Employment and Wages, Notice of Leave Category Changes, pre-printed T&A schedules and prepunched T&A cards, W-2 statements, change notices, savings bonds listing, health insurance listing, and a detailed payroll listing. Also prepared in this run will be a savings bond tape (PADA 05142) for transmittal directly to the Treasury Disbursing Office. Savings bonds may be prepared directly from this tape.



NUMBER OF EMPLOYEES PAYROLLED  
BY AGENCY AND PAYROLL LOCATION

<u>Agency</u>	<u>Payroll Locations</u>	<u>Approx. No. Employees</u> <u>Serviced Biweekly</u>	
		<u>Minimum</u>	<u>Maximum</u>
AMS	Berkeley, Calif.	1,116	1,852
	Chicago, Ill.	2,880	3,945
	Washington, D. C.	3,998	5,553
AMS Total	3	7,994	11,350
ARS	Berkeley, Calif.	2,670	2,834
	Ft. Washington, Pa.	2,875	3,220
	Minneapolis, Minn.	3,143	3,381
	New Orleans, La.	4,346	5,047
	Washington, D. C.	3,054	3,254
	Beltsville, Md.	378	470
ARS Total	6	16,466	18,215
ASCS	Denver, Colo.	4,125	4,889
	Washington, D. C.	3,234	3,509
ASCS Total	2	7,359	8,398
CEA	Washington, D. C.	115	124
FCS	Washington, D. C.	106	113
FAS	Washington, D. C.	1,286	1,511
FCIC	Washington, D. C.	988	1,181
FES	Washington, D. C.	233	252
FHA	St. Louis, Mo.	9,267	10,903
FS	Atlanta, Ga.	3,091	3,729
	Albuquerque, N. Mex.	947	1,911
	Denver, Colo.	1,197	2,228
	Madison, Wisc.	375	440
	Milwaukee, Wisc.	1,255	3,371
	Missoula, Mont.	2,260	5,414
	Ogden, Utah	1,409	3,460
	Portland, Ore.	3,422	6,480
	San Francisco, Calif.	2,983	5,836
	Upper Darby, Pa.	843	1,134
	Washington, D. C.	575	615
	Juneau, Alaska	250	500
FS Total	12	18,607	35,118



<u>Agency</u>	<u>Payroll Locations</u>	<u>Approx. No. Employees</u> <u>Serviced Biweekly</u>	
		Minimum	Maximum
LIB	Washington, D. C.	152	161
SRS & ERS	Washington, D. C.	2,487	3,224
INF	Washington, D. C.	238	259
SEC	Washington, D. C.	470	470
OGC	Washington, D. C.	391	406
REA	Washington, D. C.	951	988
SCS	Auburn, Ala.	316	385
	Phoenix, Ariz.	145	157
	Little Rock, Ark.	436	477
	Berkeley, Calif.	529	566
	Denver, Colo.	390	449
	Storrs, Conn.	61	73
	Gainesville, Fla.	209	243
	Boise, Idaho	202	248
	Champaign, Ill.	387	402
	Indianapolis, Ind.	339	385
	Des Moines, Iowa	490	534
	Salina, Kansas	495	596
	Lexington, Ky.	393	518
	Alexandria, La.	356	399
	Amherst, Mass.	75	84
	College Park, Md.	171	183
	East Lansing, Mich.	257	293
	St. Paul, Minn.	292	360
	Jackson, Miss.	580	671
	Colombia, Mo.	201	228
	Bozeman, Mont.	253	290
	Lincoln, Nebr.	648	837
	Washington, D. C.	496	510
	Reno, Nev.	90	101
	Durham, N. H.	47	60
	New Brunswick, N. J.	84	92
	Albuquerque, N. Mex.	250	267
	Bismarck, N. Dak.	284	387
	Columbus, Ohio	332	359
	Stillwater, Okla.	773	851
	Harrisburg, Pa.	240	295
	Temple, Texas	1,741	1,867
	Huron, S. Dak.	274	332
	Madison, Wisc.	261	320
	Portland, Ore.	320	350
	Morgantown, W. Va.	197	237

<u>Agency</u>	<u>Payroll Locations</u>	<u>Approx. No. Employees</u> <u>Served Biweekly</u>	
		Minimum	Maximum
SCS (cont.)	Nashville, Tenn.	336	415
	Richmond, Va.	280	294
	Columbia, S. C.	255	289
	Burlington, Vt.	69	82
	Spokane, Wash.	310	335
	Raleigh, N. C.	372	415
	Syracuse, N. Y.	288	297
	Orono, Maine	65	80
	Athens, Ga.	527	567
	Salt Lake City, Utah	189	220
	Casper, Wyo.	169	199
	Beltsville, Md.	175	193
	Spartansburg, S. C.	119	124
	Milwaukee, Wisc.	113	113
	Ft. Worth, Tex.	127	137
	Upper Darby, Pa.	<u>42</u>	<u>42</u>
SCS Total <u>1/</u>	52	16,050	18,208
Department Total	87	<u>83,160</u>	<u>110,881</u>

1/ Two SCS Payroll Offices (Hawaii and Puerto Rico) are not included in the survey.

VOLUME INPUT - Present and Proposed Payroll System

<u>Form No.</u>	<u>Record Content</u>	<u>Frequency</u>	<u>Annual Volume</u>	
			<u>Present System</u>	<u>Estimated New System</u>
SF-2809	- Health Benefits Registration	Daily as received	15,000*	- 15,000
SF-2810	- Notice of Change in Enrollment Status (Health Benefits)	Daily as received	7,447	- 6,700
SF-1130	- Time and Attendance Report (or other forms used for reporting time and attendance)	Pay period	2,340,000	- 2,340,000
TD-2254	- Authorization for Purchase of U. S. Savings Bonds	Daily as received	8,483	- 8,483
TD-2254A	- Request for change in Payroll Savings Allotment	Daily as received	850*	- 850
SF-1150	- Record of Leave Data Transferred	Daily as received	3,903*	- 2,000
W-4	- Employees' Withholding Exemption Certificate	Daily as received	22,896	- 22,896
- -	- State Tax Exemption Certificate	Daily as received	10,000	- 10,000*
SF-2807	- Register of Separation and Transfers	Daily as received	2,100*	- 150
	- Authorization for Quarters Deductions (form to be designed)		2,500	- 2,500
SF-50, SF-52 or Equivalent	- Request for Personnel Action and Notification of Personnel Action	As required	151,210*	- 151,210
	- Adjustment Document	As required	2,600*	- 2,600
	- Change of Check Mailing Instructions	As required	2,500*	- 2,500

\* - Estimate

## OUTPUT - Present and Proposed Payroll System

Form No.	Record Content	Frequency	Annual Volume	
			Present System	Estimated New System
SF-2806	- Individual Retirement Record (Service History and Deductions)	As required	67,075	- 6,707 R
SF-2806	- Individual Retirement Record (Completed on Separation)	As required	6,390*	- 6,390
SF-2807	- Register of Separations and Transfers	As required	4,239	52
SF-2807-1	- Register of Adjustments	Annually	45	45 M
SF-2807-2	- Annual Summary - Retirement Fund Trans-	Annually	87*	1
	- Report of Federal Employment and Wages	Quarterly	2,000*	200
SF-2811	- Transmittal and Summary Report to Carrier	Biweekly	2,806	500
SF-2812	- Report of Withholdings and Contributions	Biweekly	2,262*	52
	- Notice of Leave Category Change	As required	7,000*	0 ES
	- 90 day Leave Notice for Employees	As required	9,840*	0 ES
	- Geographic Distribution of Federal Payrolls for Calendar Year	Annually	87*	1 A
	- Leave Liability Report	Annually	87*	87 A
	- Preheaded Time and Attendance Reports	Biweekly	-	2,340,000 A
	- Year-end leave balance report		30,000*	0 ES
W-2	- Withholding Tax Statement	Annually and upon separation	128,118	- 125,000 A
W-3	- Reconciliation of Income Tax Withheld from Wages	Annually	87	1
AD-84	- Schedule of Collections (Days when collections affect salary)		1,893	- 150 M
SF-219	- Certificate of Deposit (Days when collections affect salary)		1,623	- 150 M
RO-258	- Request for Reissuance or Cancellation of U.S. Savings Bonds	As required	1,065	- 1,065 M
- -	- Payroll Savings Bond Report	Quarterly	348	- 4
ES-931	- Request for Wage and Separation Information	As required	17,646	- 17,646 M 1/
ES-936	- Request for Verification of Wage and Separation Information	As required	1,266	- 1,266 M 1/
TD-941	- Employer's Quarterly Federal Tax Return	Quarterly	348	- 4
TD-941c	- Statement to Correct Information Previously Reported Under FICA	As required	5	- 4 M
- -	- Employer's Quarterly State Tax Returns	Quarterly	1,700*	- 100
- -	- Employer's Annual State Tax Return	Annual	425*	- 25
SF-1081	- Voucher and Schedule of Withdrawals and Credits (Payrolling)	As required	1,926	- 520 M
SF-1098	- Schedule of Canceled Checks	As required	432	- 100 M
SF-1125	- Payroll Control Register	Each pay period	1,277	- C
SF-1126	- Payroll Change Slip	As required	1,208,532	- 0
- -	- Earnings Statement	Pay period	24,000*	- 2,340,000 A 2/
SF-1127	- Individual Pay Card	Annual	148,848	- T
SF-1128	- Payroll for Personal Services, Payroll Certification and Summary	Pay period	368	- 0
SF-1150	- Record of Leave Data Transferred	As required	3,903	- 2,000
SF-1154	- Public Voucher for Unpaid Compensation Due a Deceased Civilian Employee	As required	288	- 288 M
SF-1166	- Voucher and Schedule of Payments (for payrolls)	Each pay period	6,864*	- 78 WDT
SF-1177	- Addressograph Plate Notice - Savings Bonds	As needed	14,590	- 0 PT
SF-1182 & 1183	- Subscriber List for Issuance of United States Savings Bonds	Each pay period	13,236	- 130 WDT
SF-1185	- Schedule of Undeliverable Checks for Credit to Government Accounts	As required	435*	- 52 M
SF-2805	- Request for Recovery of Debt Due the U. S.	As required	58	- 58 M

M - Manually prepared

ES - Part of earnings statement

R - Retirement records will be on tape with positions for attachment to 2806 after each 20 lines of information. Volume estimated on basis that a 20-line printout will cover an employee for 10 years.

A - Automatic output

\* - Estimate

T - Tape record

\* - Estimate

C - Control programmed

PT - Part of tape record

WDT - With detail tape to Treasury

1/ - As a system improvement, information required to complete these forms could be obtained from the computer system. (Reference paragraph III L.)

2/ - As a system improvement, this could be added to the time and attendance report eliminating this output volume. (Reference paragraph III E I.)



INPUT REQUIREMENTS OF PROPOSED SYSTEM

<u>Nature of Form</u>	<u>Frequency</u>
1. SF-2809, Health Benefits Registration	Weekly as received
2. SF-2810, Notice of Change in Enrollment Status (Health Benefits)	Weekly as received
3. SF-1130, Time and Attendance Report (or other forms used for reporting time and attendance)	Pay period
4. TD 2254, Authorization of Purchase of U. S. Savings Bonds	Weekly as received
5. TD 2254A, Request for Change in Payroll Savings Allotment	Weekly as received
6. SF-1150, Record of Leave Data Transferred	Weekly as received
7. W-4, Employee's Withholding Exemption Certificate	Weekly as received
8. State Tax Exemption Certificate	Weekly as received
9. SF-2807, Register of Separation and Transfers	Weekly as received
10. Authorization for Quarters Deductions (Form to be designed)	
11. SF-50, Request for Personnel Action and SF-52, Notification of Personnel Action, or equivalent	As required
12. Adjustment document	As required
13. Change of Check Mailing Instructions	As required

INPUT DOCUMENTS

Nature of Form

Frequency

1. SF-2809, Health Benefits Registration Form  
Used to register employee in health plan selected by employee.  
  1. Social security number
  2. Name of employee
  3. Enrollment code number or
    - (1. Election not to enroll
    - (2. Election to cancel enrollment
  4. Effective date
  5. Biweekly amounts of employee's deductions and employer's contributions, determined by enrollment code number
  6. Carrier control number

The SF-2809 is also used to cancel enrollment or to change enrollment from one plan to another plan.
2. SF-2810, Notice of Change in Enrollment Status  
Notice of termination of enrollment in health plan, change in plan, transfer to another employing office, retirement, suspension, or reinstatement.  
  1. Social security number
  2. Name of employee
  3. Effective date
  4. Action code for change being made
  5. Carrier control number
3. SF-1130, Time and Attendance Report or other forms used for reporting time and attendance  
  1. Social security number
  2. Payroll block number
  3. Pay period
  4. Total hours in pay status
    - a. Regular
    - b. N/D
    - c. O/T
    - d. Holiday
    - e. Compensatory time worked
  5. Time absent in hours
    - a. Annual
    - b. Sick
    - c. Compensatory

Weekly as received

Weekly as received

Biweekly

Nature of Form

Frequency

- d. LWOP
  - e. Military (days)
  - f. Home leave
  - g. Other
  - 6. Appropriation, allotment, and suballotment
  - 7. Lodging furnished and rate
  - 8. Meals furnished and rate
  - 9. Payment of compensatory time worked in prior pay period:
  - 10. Other cost distribution information on SCS and FS T&A Reports
4. TD-2254, Authorization for Purchase of U. S. Savings Bonds Weekly as received
- Authorizes deductions for bonds
- 1. Social security number
  - 2. Bond authorization number
  - 3. Date of authorization
  - 4. Amount to be deducted each pay period
  - 5. Series of bonds to be issued
  - 6. Denomination of bonds to be issued
  - 7. Full name of principal payee
  - 8. Address of principal
  - 9. Full name of beneficiary or co-owner
  - 10. Address of beneficiary or co-owner
  - 11. Identification as to (a) beneficiary (b) co-owner
  - 12. Delivery instructions (a) in person (b) by mail
5. TD-2254A, Request for Change in Payroll Savings Allotment Weekly as received
- Authorizes change in present bond authorization. May change one or more of the following items:
- 1. Name of principal
  - 2. Address of principal
  - 3. Name of co-owner or beneficiary
  - 4. Address of co-owner or beneficiary
  - 5. Denomination
  - 6. Amount of pay period deduction
  - 7. Delivery instructions
6. SF-1150, Record of Leave Data Transferred Weekly as received
- To enter into system annual, sick, LWOP, and military leave balances for employees transferred to agency.  
Items to be entered into system:
- 1. Social security number
  - 2. Annual leave ceiling (number of hours)

Nature of Form

Frequency

3. Leave balances transferred (number of hours) annual and sick
  4. LWOP during current leave year (number of hours)
  5. LWOP since last periodic step increase (number of hours)
  6. Military leave granted during current fiscal year (number of days)
- 
- |   |                    |
|---|--------------------|
| 7. <u>Form W-4, Employee's Withholding Exemption Certificate</u><br>To enter into the system, or change, the number of exemptions claimed by the employee for Federal tax withholding which will determine the amount of Federal tax to be withheld from wages. | Weekly as received |
|---|--------------------|
- 
- Items to be entered into system
1. Social security number
  2. Employee home address (used for W-2 mailing address and for annual distribution of salary payments by geographic location)
  3. Total number of exemptions claimed
  4. Dollar amount to be withheld in addition to above exemptions
- 
- |  |                    |
|--|--------------------|
| 8. <u>State Tax Exemption Forms</u><br>To enter into the system number of exemptions for determining amount of State tax to be withheld. | Weekly as received |
|--|--------------------|
- 
- |  |                    |
|--|--------------------|
| 9. <u>SF-2807, Register of Separations and Transfers</u><br>Received from USDA-cooperating agency for "Cooperative" employee being transferred in. Provides information on employee's retirement deductions made during current year and total retirement deductions to date of transfer. May list several employees. Used to establish such information in the system as well as posting media for general ledger accounts. | Weekly as received |
|--|--------------------|
- 
- Items to enter into system
1. Social security number
  2. Total prior year retirement deductions to credit of employee
- 
- |  |                    |
|--|--------------------|
| 10. <u>Form to be designed. Authorization for quarters deductions</u><br>Authorizes a specific amount to be deducted biweekly from an employee's salary for permanent quarters furnished him by the Government. Items to be entered into system: | Weekly as received |
|--|--------------------|
- 
1. Employee social security number



Nature of Form

Frequency

2. Amount of biweekly deduction to be made
3. Indication as to whether or not employee is required by Government to live in the quarters to perform his duties. If yes, the amount deducted is not subject to Federal income tax withholding, nor reported in gross wages for Federal tax purposes.

11. SF-50, SF-52, or equivalent

As required

1. Name
2. Date of birth
3. Social security number
4. Nature of personnel action (such as career conditional appointment, promotion, reassignment, etc.)
5. Effective date of personnel action
6. Establish place for name for checks, if other than that shown on personnel action
7. (a) Position title and number  
(b) Working title for positions GS-14 and above or of positions of equivalent salary.
8. Establish beginning data of PSI
9. (a) Classification series  
(b) Wage Board ungraded
10. Departmental or field employees
11. Grade, step, base salary
12. Eligibility for leave, leave category
13. Salary
  - (a) Federal share
  - (b) Cooperator's share
  - (c) Post differential
  - (d) Cost-of-living allowances
  - (e) Salary differential
14. Name of employing agency
15. (a) Name and location of office within agency by which employed (from and to on intra- and inter-agency movements)

<u>Nature of Form</u>	<u>Frequency</u>
(b) Agency division (c) Agency branch	As required
16. Duty station (show city, county, and State). Can be used for State tax purposes	
17. Apportioned position (show yes or no and State of legal residence, if citizen and foreign country, non-citizen)	
18. Appropriation symbol, allotment, work project or other fund identification	
19. Competitive service or Excepted service	
20. Tenure group for reduction-in-force	
21. Veterans' preference (show whether none, 5-point, 10-point disability, 10-point compensable disability, or 10-point for other reasons)	
22. Uniform allowances	
23. Reemployment of an annuitant -- need to know amount of annuity	
24. Fringe Benefit Eligibility (a) Civil Service Retirement (b) Federal Insurance Contribution Act (c) Federal Employees' Government Life Insurance (show whether covered, ineligible or waived) (d) Federal Employees Health Benefits	
25. Physical handicap code	
26. Sex	
27. Service computation date	
28. Date of completion of appointment affidavits (for accessions only)	
29. Commencing date (month, day, and year) of service counting toward career (or permanent) tenure	
30. Tenure	
31. Status	
32. Identity of office maintaining personnel folder	

Nature of Form

Frequency

- |   |             |
|---|-------------|
| 33. Identity of office maintaining accounting records   | As required |
| 34. Civil Service or other legal authority for Excepted Positions only (PL-600, Classification Act, etc.) |             |
| 35. Appointment limitations (both time and aggregate earnings)  |             |
| 36. Pay category  |             |
| (a) Full-time   |             |
| (b) Part-time   |             |
| (c) When actually employed - regular tour   |             |
| (d) When actually employed - no regular tour  |             |
| (e) Combination part-time and when actually employed  |             |
| (f) Per annum   | Rate        |
| (g) Per hour  |             |
| (h) Per month   |             |
| (i) Per diem  | Rate        |
| (j) Fee basis   | Rate        |
| 37. Identification of Letter of authorization employment  |             |
| 38. Identification of sensitive positions   |             |
- 
- |   |             |
|---|-------------|
| 12. <u>Adjustment Document</u>  | As required |
| This document (to be designed) will be used for entering the following types of transactions into the system: |             |
| a. Deductions from pay other than provided for on the T&A report  |             |
| (1) Lost property   |             |
| (2) Travel advances   |             |
| (3) Tax levies  |             |
| (4) Other amounts owed Government   |             |
| b. Cancelled checks (SF-1098)   |             |
| c. Undeliverable checks (SF-1185)   |             |
| d. Refund of bond balances  |             |
| e. Correction of fund charged   |             |
| f. Overpayment of salary  |             |
| g. Correction of leave changes or balances  |             |

Nature of Form

Frequency

13. Change of Check Mailing Instructions

As received

This form (to be designed) will be completed by the employee and forwarded to the payroll center for updating check mailing instructions. It will provide for the following:

- (a) Change from one address to another
- (b) Change from address to designated agent
- (c) Change from designated agent to address



OUTPUT REQUIREMENTS OF PROPOSED SYSTEM

<u>Nature of Item</u>	<u>Frequency</u>
1. Tape - Pay Listing	Pay period
2. Tape - Bond Listing	Pay period
3. Tape - FICA Listing	Quarterly
4. W-2 - Withholding Tax Statement	Annually and upon Separation
5. SF-2812, Report of Withholding and Contributions, Health Benefits, Group Life Insurance, and Civil Service Retirement	Pay period
6. SF-2807-2, Annual Summary Retirement Fund Transactions	Annually
7. W-3, Reconciliation of Income Tax Withheld from Wages	Annually
8. SF-1150, Record of Leave Data Transferred	As required
9. Earnings Statement	Pay period
10. Form TD-941, Employer's Quarterly Federal Tax Return (also TD-941-Schedule A, and TD-941-A, Continuation Sheet for Schedule A)	Quarterly
11. TD-941-C, Statement to Correct Information previously reported under FICA	As required
12. SF-2807, Register of Separations and Transfers	As required
13. SF-1166, Voucher and Schedule of Payments	Pay period or supplemental payrolls
14. United Givers Fund Information	Annually
15. SF-2806, Individual Retirement Record	As required
16. Employer's Quarterly State Tax Return	Quarterly
17. Employer's Annual State Tax Return	Annually
18. Payroll Savings Bond Report	Quarterly
19. Supplemental Listing of Installations	As required
20. Report of Federal Employment and Wages	Quarterly
21. SF-2811, Transmittal and Summary Report to Carrier (Health Benefits)	Pay period
22. Geographic Distribution of Federal Payrolls for Calendar Year	Annually
23. Accounting Station Posting Media Report	Pay period
24. Leave Liability Report	Annually
25. Time and Attendance Reports	Pay period

OUTPUT REQUIREMENTS OF PROPOSED SYSTEM

<u>Nature of Item</u>	<u>Frequency</u>
1. <u>Tape - Pay Listing</u>  This tape will show name, net salary, and address or distribution code as required.	Pay period
2. <u>Tape - Bond Listing</u>  This tape will show, by denomination, name and address of owner and co-owner, name of beneficiary, if any, and effective date of bond.	Pay period
3. <u>Tape - FICA Listing</u>  This tape will show the name of each employee subject to FICA taxes, the total wages subject to FICA, and the total amount of FICA taxes withheld.	Quarterly
4. <u>W-2, Withholding Tax Statement</u>  For each employee who separates from the Department and annually for every employee, print out a form W-2 showing employer's identification number, name and address; employee number; employee social security number, total FICA wages paid in calendar year; FICA withheld, if any; marital status; total wages paid in calendar year; Federal income tax withheld; State or other tax withheld; employee name and address.	Annually and upon separation
5. <u>SF-2812, Report of Withholding and Contributions, Health Benefits, Group Life Insurance, and Civil Service Retirement.</u>  Each payroll period print out Department, address, payroll office no., report no., pay period dates (from to). For health benefits, show by enrollment code no. total withholdings and contributions. Also show total withholdings, and total contributions.  For last payroll paid in June and December show by carrier code, number of employees covered from whom deductions were withheld and number from whom no deductions were withheld. Also show total amounts for both groups.  For group life insurance and retirement show total withholdings and total contributions.  Show grand total of all above deductions and contributions. For life insurance and retirement show for last	Pay period

Nature of Item

Frequency

period paid in June and December, number of employees covered from whom deductions were withheld and from whom no deductions were withheld.

6. SF-2807-2, Annual Summary Retirement Fund Transactions  
Annually need the following:

Annually

Total of all Department employee retirement account balances as of December 31, prior year.

Plus and minus of transfers in and transfers out, plus current year deductions to determine retirement account balance as of close of current calendar year (December 31).

Need to obtain number of employees accounts at close of calendar year.

7. W-3, Reconciliation of Federal Income Tax withheld from Wages

Annually

Annually need totals of employee's earnings and Federal Income taxes withheld for the calendar year as shown on W-2's. Also need earnings and withholdings for each quarter in the year. (Send with this report employer copies of W-2, Withholding Tax Statements to district director. Also show no. of W-2's attached.)

8. SF-1150, Record of Leave Date Transferred

As required

The following information must be furnished to the new agency when an employee transfers.

1. Name of employee
2. Appointment data (EOD date - F/t, P/t)
3. Total Service for leave as of date of separation years, months, date, or ☒ more than 15 years
4. Date and nature of separation

Summary of Leave Hours

5. Balance from prior year ended \_\_\_\_\_
6. Current year accrued through \_\_\_\_\_
7. Total of 5 and 6
8. Reductions in credits, if any current year
9. Total leave taken
10. Balance transferred or included in lump-sum
11. Total hours paid in lump-sum
12. Salary rate(s)
13. Lump-sum leave period:  
from \_\_\_\_\_ hours \_\_\_\_\_ to \_\_\_\_\_ hours  
(date) (date)

<u>Nature of Item</u>	<u>Hours Absent Without Pay</u>	<u>Frequency</u>
14. During leave year in which separated		As required
15. Since waiting period for step increase which began on _____ (date)	<u>Hours</u>	
(a) LWOP and/or furlough	x	
(b) AWOL and/or suspension	x	
16. Military leave granted during current fiscal year (days)	x	

9. Earnings Statement (form to be designed) Pay period

For each employee each pay period an earnings statement will be prepared showing the following information:

Employee name, social security number, amount of base pay, premium pay by types, gross pay, deductions by types, net pay, and leave balances.

10. TD 941, Employer's Quarterly Tax Return Quarterly

Summary

Employer identification number, name and address, and period for which the return is filed.

Summary Totals

1. Amount withheld
2. Adjustments for preceding quarters of calendar year
3. Adjusted total of income tax withheld
4. Total taxable wages paid (from item 21 Schedule A)
5. 6% of wages in item 4
6. Adjustments
7. Adjusted total of FICA taxes
8. Total taxes
9. Balance due - payment to Internal Revenue Service

Schedule A TD 941 (941A - Continuation Sheet for TD 941)

Prepare detailed listing of: (16) employees covered by FICA (17) social security number; (18) name; (19) wages taxable under FICA paid in quarter; (20) State or possession where employed. (If employee is paid more than \$4800 in a calendar year report only first \$4800 of such wages. Total wages reported in (19); (21) total wages taxable under FICA paid during the Quarter.



<u>Nature of Item</u>	<u>Frequency</u>
11. <u>TD 941 C Statement to Correct Information (previously reported under FICA)</u>	As required
<p>Errors in prior reports. If the account number, name, or wages of one or more employees were omitted or erroneously reported on previous TD 941, adjustments must be reported to Internal Revenue Service showing the following information:</p> <ol style="list-style-type: none"><li>1. Social security number</li><li>2. Name of employee</li><li>3. Period covered by return to be corrected (show date quarter ended)</li><li>4. Wages previously reported as paid in period</li><li>5. Correct amount of taxable wages paid in period</li><li>6. Totals item (4) and (5)</li><li>7. Difference between (4) and (5)</li></ol> <p>As these adjustments are processed, keep a separate record of adjustments totals (net).</p>	
12. <u>SF-2807, Register of Separations and Transfers</u>	As required
<p>Transmittal sheet to accompany SF-2806's to Civil Service Commission, listing the following:</p> <ol style="list-style-type: none"><li>1. Employees' names</li><li>2. Current year retirement deductions for each</li><li>3. Total retirement deductions to credit of each employee</li><li>4. Date of separation for each employee</li><li>5. Totals for items</li></ol>	
13. <u>SF-1166, Voucher &amp; Schedule of Payments</u>	(Pay period or supplemental payrolls)
<p>Certification to disbursing officer of gross payroll. Attach listing by accounting station. Will also be used by the MDSC to post to general ledger for the various deduction accounts.</p> <ol style="list-style-type: none"><li>1. Assigned schedule number</li><li>2. Gross payroll charge by accounting station</li><li>3. Net pay to employees listed on payroll</li><li>4. Amount of employee deductions and employer contributions (separate amount) on payroll for:<ol style="list-style-type: none"><li>(a) FEHBA</li><li>(b) Retirement</li><li>(c) FEGLI</li><li>(d) Total amount of 4a, b, and c above (amount of check issued to CSC)</li></ol></li><li>5. Amount of employee deductions for FICA</li></ol>	

<u>Nature of Item</u>	<u>Frequency</u>
6. Amount of employers contributions for FICA	(Pay period or
7. Total of 5 and 6 above	(supplemental
8. Amount of employee deductions for Federal withholding tax	(payrolls
9. Total of 5, 6, and 8 above	
10. Amount of employers deductions for bonds	
11. Amount of employers deductions for State tax	
12. Amount of employers deductions for delinquent taxes	
13. Grand total of payroll consisting of amount under 3, 4d, 9, 10, 11, and 12.	
14. <u>United Givers Fund Information</u>	Annual
This information varies from year to year Generally, information is requested as follows:	
1. Name, Agency, and Division	
2. Annual Salary	
3. Biweekly Federal income tax withholdings	
15. <u>Individual Retirement Record</u>	As required
Upon separation of an employee from the Department, the following information is required to complete SF-2806:	
1. Name, social security number	
2. Service history	
(a) Effective date	
(b) Action	
(c) Base pay	
(d) Remarks	
3. Fiscal record	
(a) Year	
(b) Calendar year salary deductions	
(c) Accumulative total salary deductions	
(d) Remarks	
4. Sex	
5. Date of birth	
6. Agency	
7. Payroll office	
8. Location	
16. <u>Employers Quarterly State Tax Return</u>	Quarterly
Each quarter the total amount of State tax withheld in the quarter is needed to prepare State tax reports. Also need to issue check.	

<u>Nature of Item</u>	<u>Frequency</u>
17. <u>Employers Annual State Tax Returns</u>  Annually the total amount of State tax withheld during the year from Departmental employees and number of employees is required to prepare State tax reports.	Annually
18. <u>Payroll Savings Bond Report</u>  Each quarter need the following information by Department and field:  a. Total number of employees in agency b. Number of employees participating in plan c. Gross salaries paid d. Amount deducted for bond purchases	Quarterly
19. <u>Supplemental Listing of Installations</u>  Required to report to State employment offices when an installation reached 10 or more employees or if in employment an installation goes below 10 employees.	As required
20. <u>Federal Report of Employment and Wages</u>  Each quarter required to report to States, by installations having 10 or more employees, the number of employees employed in the pay period ending nearest the 15th of the month (by months). Also required to show total salaries and wages on all payrolls for the quarter by installation. For installations having less than 10 employees, group these employees and amounts and report these totals on a Statewide basis.	Quarterly
21. <u>SF-2811, Transmittal and Summary Report to Carriers (Health Benefits)</u>  Each pay period the following information is needed by carriers and enrollment code:  1. No. of enrollees covered for whom deductions were made.  2. No. of employees covered for whom no deductions were made.	Pay period
22. <u>Geographic Distribution of Federal Payrolls for Calendar Year</u>  Annually at end of calendar year prepared to show, by States, the gross salaries paid to Department employees.	Annually

Nature of Item

Frequency

23. Accounting Station Posting Media Report

Pay period

A report to each accounting station for each SF-1166, of the following information by the finest breakdown required by the agency (i.e., appropriation, limitation, allotment, suballotment, organization, project or activity):

- Gross expenditures
- Gross salary
- Employer's contributions
  - Retirement
  - FICA
  - FEGLI
  - FEHBA

24. Leave Liability Report

Annually

A report for each accounting station of the cumulative value of annual leave and compensatory leave as of last pay period in June by appropriation. The report should be computed by hourly rate times number of hours separately for annual leave and compensatory leave.

25. Time and Attendance Report

Pay period

Preheaded time and attendance reports with employee's name, social security number, pay period, block number, and distribution code.



BUDGET

Result of Budget Study

Result of Program Analysis Study

Result of Operations Research Study

Computer Schematics

Exhibits



## RESULT OF BUDGET STUDY

### I. INTRODUCTION

The budget study assignment to the Payroll and Accounting, Budget Work Group consisted of two parts. The first part was to determine the practicality of a system for using information generated in the personnel and payroll processes to provide data for the reports on employment and obligations for personal services required for the annual budget estimates. If a system were practical, the group was to design it. The group studied the present system and the proposed personnel and payroll systems and determined that the information required for these reports could be obtained. This part of the study is discussed in Section II below.

The second part was to devise a system for gathering financial and manpower information needed for the program analyses and measurements of program effectiveness and relative merit as developed by the Program Analysis and the Operations Research work groups. This part of the study is discussed in Section III below.

### II. REPORTS FOR BUDGET ESTIMATES

#### A. The Present System

Each agency budget office manually prepares the various reports and analyses on employment and obligations for personal services that are required for the annual budget estimates. The information needed to prepare these reports may come from payroll-accounting offices, program divisions, or personnel offices, depending on the system of the agency. The extensive recordkeeping involved makes these reports costly and time consuming to prepare. The reports are listed below.

##### (a) Personnel Compensation in the Object Schedules

A schedule is prepared for each appropriation or fund available to the agency. The first section of this object schedule sets forth a summary of costs under object class 11 - Personnel Compensation, by "Permanent positions," "Positions other than permanent" and "Other personal services." (See Exhibit I.)

##### (b) Personnel Summary

This schedule is prepared by each agency for each appropriation or fund, whenever the object schedules show an entry for personnel compensation. It shows a summary listing of "Total number of permanent positions," "Full-time equivalent of other positions," "Average number of all employees," "Number of employees at end of year," "Average grade by position grouping," and "Average salary by position grouping." (See Exhibit I.)

##### (c) Detail of Personnel Compensation

Individual schedules by appropriation item or one consolidated schedule is prepared by each agency. The schedule contains in detail the expenses chargeable to object class-11 "Personnel Compensation." The information is arranged to show "Position

Schedule for permanent employment," "Basic costs of other types of employment," and "Costs of special types of pay."

For an agency that has more than one appropriation and submits a consolidated schedule the schedule also shows, in summary, the distribution of salary obligations. (Exhibit IV shows the detailed information required for this schedule.)

(d) Analysis of Change in Average Salary

A report is prepared for each grade series under the consolidated schedule "Detail of Personnel Compensation." The analysis traces the changes from the actual (past year) data printed in the preceding budget. Comparison is made of the numbers of positions, annual salary rates, and average salary for past, current, and budget years. Explanation of factors affecting changes in average salary in pay scales, net change in pay above minimum of grade (including within-grade advancements), decreases due to filling vacancies at minimum of grade, and so forth.

(e) Explanation of Lapses

A separate report covers the man-years and amount of lapse contained in each consolidated or individual schedule "Detail of Personnel Compensation." Factors that result in the total lapses are explained, such as delay in filling vacant positions and new positions, leave without pay, part-year employment, and effects of reflecting positions at salary rates in effect for greater part of fiscal year offset by terminal leave payments. Exhibit V illustrates the information required for this report.

(f) Summary Data on Personal Services

This report is prepared by each agency to show by appropriation and fund the number of employees at end of year and obligations for personnel compensation.

Information in this report must agree with the report to the Civil Service Commission on employment as of the end of the past fiscal year. See Exhibit II.

B. The Proposed System

As a part of establishing the Position and Job Master File, each agency will send a listing of positions to the MDSC. A record will be established by agency for each position in the Department. Thereafter, the master file will be updated currently as positions are established, abolished, or reclassified. These position records will reflect all actions that have taken place during the year, as well as information on lapse, LWOP, and terminal leave payments.

A Budget Master File will be maintained on which all expenditures for personnel compensation and personnel benefits will be recorded. The expenditure information will be categorized to provide the data needed for the budget estimates. As part of the payroll process, the Budget Master File will be updated currently.



Thus, as a by-product of personnel and payroll operations, the MDSC will produce the various schedules and analyses required for the budget estimates. Initially, the system will only produce "past year" historical data. However, after operating experience is acquired, it is expected that the system, with further refinement and the introduction of appropriate data, will also produce current-year projections and possibly budget-year estimates. The projections and the estimates would be used only as a management aid in developing the final estimates. Exhibits III, IV, V and VI illustrate the output for those reports.

### III. FINANCIAL INFORMATION FOR MANAGEMENT

The second objective of the Work Group was to develop a system for gathering financial information needed for the program analysis techniques developed by the Program Analysis Work Group and for the measures of program effectiveness developed by the Operations Research Work Group. The program analysis and the program measurements developed by these groups require financial and manpower information on a project basis.

#### A. The Present System

In some agencies financial information on a project basis is readily and currently available. In other agencies, however, accounts are maintained on an appropriation-allotment basis only. Financial information on a project basis is determined from periodic analysis of the appropriation-allotment accounts.

Presented below is an outline of the pertinent segments of the present budget system.

Uniform Project System - The Uniform Project System of the Department is a means whereby the broad and often multiple work objectives financed by each appropriation item in the Department's budget are divided and subdivided into smaller work units, or projects, in order that specific program objectives may be more easily identified, segregated, and described, and their relationship one to the other, more readily recognized. In descending order of scope, the activities under each appropriation item are broken down into Financial, Work, and Line Projects. Exhibit VII illustrates the Uniform Project System.

Budget Estimates - The annual budget estimates are requests to Congress for appropriations to carry out authorized programs. The estimates consist of various supporting schedules, justifications, and statements. Among these are (a) Program and Financing Schedules, which set forth the activities (financial projects) to be carried on under the appropriation and (b) Narrative Statements on Program and Performance, which present in summary form the work program, a measure of expected performance (compared with present and past), and the relations of expected performance to the financial estimates.

Appropriations - The appropriation act establishes the maximum amount which may be used for an over-all program, generally consisting of several activities (financial projects). In accordance with law, the appropriation is apportioned (usually quarterly limitations on obligations) and allotted for control purposes.

Allotment - An allotment is a subdivision of funds under an appropriation. Each allotment is a legal limitation for incurring obligations. Allotments

are generally made to heads of organizational units. The organizational unit may carry on, and the allotment may provide funds for, one, a part of one, or several activities.

Fund Control - All agencies in the Department have established fund control systems to prevent over-obligation of appropriations and the related apportionments and allotments. These systems are required under the "Anti-deficiency Act." Accounting records are maintained for each allotment. The status of funds under a given appropriation can be determined from a summary of its allotment accounts.

Activities (Financial Projects) - An appropriation provides funds for one or more budget activities. These activities are shown in the printed budget estimates. The activity categories indicate the various services to be performed under the appropriation. Subactivities (such as projects, recipients or clientele groups, types of services, etc.) are used where appropriate to provide better understanding of the programs.

The activity amounts in the budget estimates are not legal limitations under an appropriation. When necessary, more or less than the amount estimated for each activity may be used within the total appropriation. However, activity estimates are regarded as expressions of Congressional and Departmental intent; therefore, activity operations are geared to these estimates to the greatest extent practicable. The estimated amounts requested for each activity, and the past-year "actual" amounts reported should be supported by factual data.

Financial Information by Activities - Where an allotment covers one activity, accounting information by activity is readily available from the allotment accounts. However, where they do not coincide (where one allotment covers several activities or where one activity is covered by several allotments), accounting information by activity is more difficult to obtain. Some agencies maintain activity accounts on a day-to-day basis. In other agencies, obligations or costs under an allotment or other subdivision of funds are distributed between activities on the basis of man-hours devoted to each activity, workload measurements, or other formulas.

Cross-Classification Tables - For the annual budget, agencies whose activities (as shown in the budget estimates) are not identical to their organizational structure, prepare a cross-classification table. The table shows, by organizational units, the amounts for each activity and appropriation. An explanation of the basis used for distributing charges within the agency is included.

## B. The Proposed System

The analyses and measurements developed by the Program and Analysis and Operations Research work groups will require information on a project basis. As pointed out above, financial information on projects is not always readily available on a continuing basis.

The following procedure is proposed as the initial step in gathering financial information on a project basis. Initially this system will be restricted to gathering financial data on personal services on an activity (financial project) basis. The data will be further categorized between program and administrative



support functions. The functional (program support) distribution by activity will provide an indicator, for management, of activities for which costs of administrative support are disproportionately high in relation to program costs. The total obligations for personal services, when considered in relationship to workload or other measurements, will provide management with a means of gauging effectiveness. As needs for more refined information develop, or as types of information required change, this basic system will be expanded and modified.

Annual Operating Plan - Each agency will submit an annual operating plan at the beginning of the fiscal year. The plan will show the estimated man-years and total obligations for personal services for each organizational unit, by allotment and by activity. The organization units reported will be those responsible for incurring obligations under an allotment, sub-allotment, work plans, or other guide.

In units (including agency staff offices) that perform functions for more than one activity, the plan will show either estimated man-years and total obligations for personal services attributable to each activity, or the total man-years and obligations for personal services accompanied by the formula on which distribution among activities should be made. In the latter case, the distribution will be computed by the Data Processing Center (DPC). This input report is illustrated in Exhibit VIII.

#### Activity and Functional Reporting on Time and Attendance Reports.

Two agencies have systems which require that the time devoted to each activity be shown on time and attendance reports for program personnel. This procedure can be expanded to provide a further breakdown between time spent on program functions and the various categories of administrative support functions. (These categories of administrative support are shown in Exhibit IX.)

If this procedure were adopted by the agencies, the Management Data Service Center (MDSC), in connection with payroll process, will develop data on expenditures for personal services by program and administrative support functions for each activity. Obligations can be determined from an analysis of the expenditures.

#### Alternative to Reporting on the Time and Attendance Report.

All agencies which do not provide for the activity and functional breakdown on time and attendance reports will receive monthly reports on man-years and obligations, by each organizational unit for which an operating budget plan was previously submitted. These reports will be used to submit to the MDSC the man-months obligations for personal services incurred in the reporting month for each activity, by allotment or other subaccount. Where any activity distribution formula has already been submitted, only totals by allotment or subaccount will be reported.

The monthly report, whether in total or by activity, will also show a breakdown of charges between program and administrative support functions.

#### Analytical Reports for all Levels of Management.

Based on the data described above (annual operating plan and activity reports) the MDSC will prepare reports by organizational unit showing budget trends and

comparing budget plans for personal services with actual operations. These reports will be consolidated as appropriate for all levels of management. These output reports are illustrated in Exhibits IX, X, and XI.

#### Refinement of the Basic System.

The above procedure provides initially for gathering only personal services information on an activity (financial project) basis. As the system is refined, information on a work project, line project, or even job basis can be gathered using the same basic procedure.

Information on obligations for other than personal services can also be brought into the system, particularly where other obligations are distributed to the various activities and functions on a salary, man-hours, or similar formula.



## RESULT OF PROGRAM ANALYSIS STUDY

### I. INTRODUCTION

The Program Analysis Work Group, in carrying out its assignment, met with a representative of each agency and office of the Department to determine the extent to which workload measurement factors had or could be developed in support of line items as they appear in the formal budget. The group also wanted to find out what the agencies use to measure, either quantitatively or qualitatively, the overall agency effectiveness in meeting planned objectives within available resources.

### II. REVIEW OF PROGRAM OPERATIONS

Units of production have been developed by most agencies of the Department, although some follow this practice to a much greater extent than others. The objectives of an agency directly influence the extent to which workload factors have been developed and employed. There are many views on what is measurable, what is controllable, and what information is needed to make decisions that will help shape goals and objectives of the future.

Available records on units of production follow statistical patterns and projections of the past that do not reflect overall accomplishments -- equated in terms of efficiency and economy of operations. A quantitative measure of accomplishments of certain parts of a program is generally of record. Under this method, many managers are controlling on a functional or division of responsibility basis. The Department is concerned with the total program and the degree with which planned objectives are being met. However, the present system does not furnish information of overall performance on a quantitative, qualitative, or economic basis.

The area of scientific research poses a different problem -- the ability of individuals. Research evaluation often is qualitative rather than quantitative. Agencies with large research programs expressed interest in the development of a system that would help both for budgeting and evaluation.

All agencies have a precise accounting of funds. These systems follow legal and regulatory requirements but do not necessarily serve planning or operating needs at the various management levels. Present reporting systems are often an additional workload rather than a benefit to the manager.

### III. CONCLUSION

The Department does not have a system of evaluating the quality of work produced in relation to quantity and costs. The measurable work units now available will not provide the specific type of measurement contemplated in this study. They provide quantitative measures of accomplishments in fragmentary form under a variety of functional activities within each program. Often these elements can be related directly to expenditures, but the information cannot be used in its present form to measure the quality of work and effectiveness of the agency in meeting its objectives with available resources.

A system that will provide a comparison of program accomplishments on a quantitative, qualitative, and cost basis is conducive to a high degree of cost consciousness.

Knowledge of accomplishments -- effectiveness -- is a basic element in accomplishing more without increasing the total cost.

#### IV. RECOMMENDATIONS

A determination should be made of the type of information that would best serve each level of management. When this is known, the system should be developed to provide such information to agency officials and to the Secretary.

This may result in some departures from the systems now used. The new system should be designed to assure that results are recorded and interpreted so as to distill the conclusions that are useful to management for current and future planning. To gauge the effectiveness of operations, information should be obtained to show progress in meeting planned objectives. The data needed to implement this program will be derived from information received from the Management Data Service Center. Such a reporting system would make it possible to provide comparisons of actual operations with predetermined goals or standards of performance.

Other advantages of having such information available are:

1. To provide a means for establishing equitable ratios between direct and indirect costs.
2. To focus attention on programs that involve a disproportionate amount of indirect costs in relation to overall accomplishments.
3. To reflect use of manpower and identify programs that require an excessive amount of indirect or program support.
4. To provide data for making comparisons of effectiveness.
5. To provide data needed to bring about an even higher degree of cost consciousness.

Reports, charts, and graphs produced from the system should include the ones listed in Exhibit XII.

Following implementation of the initial stage of the system, the analysis work should be continued with agencies to keep abreast of new developments and to improve the system.

## RESULT OF OPERATIONS RESEARCH STUDY

Specific assignments to this group applied to two models — one for personnel and one for budget. This report covers the second, which involved the best use of funds available to the Department. This application area has been identified as Gaming Analysis for Management Effectiveness -- GAME. The other model — Management of Human Resources — is discussed in the Personnel Work Group Study.

The Operations Research Group developed concepts of the gaming model, schematics of the computer (7070) run configuration, and a description of the recurring, special, and generated reports that could be produced.

Cost estimates for research, problem definition, programming, and testing are included in the report of the Cost Group. It is estimated that 2 years will be required to establish the system.

The assignment stated:

It should be assumed that the measure of effectiveness would be perfected.

The model should be approached in two stages: (1) Initially a form of the work measurement system that will be used to obtain data on what an agency is getting done with money being spent (a very limited version of the ultimate objective); and (2) the functioning of the model after the system of measurement of effectiveness has been perfected.

This model should not be expanded into a model of the agricultural economy. Rather, it should be confined to consideration of the funds available or which reasonably can be expected to be made available in future years to the Department.

Provision has been made for the model to assist in perfection of the effectiveness measures.

### Gaming Analysis for Management Effectiveness (GAME)

Each year the Department prepares a budget requesting funds to meet program objectives and describing the planned use of the funds. After consideration by the Congress, certain funds are made available to the Department. These are allotted to agencies of the Department to accomplish the program objectives approved by the Congress.

It is the Department's responsibility to obtain the maximum for each dollar expended. Even if the program goals are accomplished, the question arises — how efficiently were the goals met?

Establishing specifications for goals and objectives is not easy. When the goal is a product, the result is tangible — something that can be seen, tested, standardized, and evaluated. The goals and objectives of the Department are intangible.

Industry also is faced with the need to get maximum use from available funds. For intangible goals, many industries that budget large sums of money are using mathematical techniques and computers to analyze the effectiveness of the allocation and use of funds. Similar techniques and methods can be used to aid management to evaluate the distribution of funds and the effectiveness of programs.



## Objectives and Methods

A tool can be provided by which management can evaluate the efficiency attained in reaching objectives. The approach is comparable to manufacturing a product:

<u>Approach in Manufacturing a Product</u>	<u>Approach in Accomplishing Goals</u>
Step 1. Specification of a manufactured product.	Goals specified by management.
Step 2. Production of the product.	Operations that accomplish goals or objectives.
Step 3. Product is inspected to see if the engineering specification is satisfied.	Performance in accomplishing objectives is evaluated.

In this study, only Step 1 and Step 3 are considered.

The first step in the system will be to establish reasonable goals.

To do this, the system will use management's knowledge of the rates of accomplishment, the past history of the Department's efficiency, and industry standards where applicable. With this information, the Quality Control Model can set reasonable standards.

The Gaming Model will use the reasonable standards, together with program requirements and available funds, to establish reasonable goals.

Reports on work progress and fund expenditures then will be entered into the system. This information and the specified goals will be analyzed statistically by the Effectiveness Evaluation Model to find the accomplished effectiveness.

When programs are completed, their actual effectiveness will be analyzed. Using the Cybernetic Approach, the results will be fed back into the Quality Control Model and used to set more reasonable standards and establish more reasonable goals. Some of the mathematical techniques used in the Models will be Mathematical Programming of Linear and Non-Linear Equations, Solving of Simultaneous Equations, and Statistical Analysis.

## Reports

Reports will be made from the system as follows:

1. Report of Standards - This report will show standards set by the Quality Control Model based on management's knowledge of rates of accomplishment, past history of the effectiveness within the Department, and industry standards. A statistical analysis report will be made to show deviations of each input from the program results.
2. Distribution of Funds Report - This report will show results of allocation of funds in the Gaming Model. (Exhibit XIII)
3. Summary of Current Effectiveness - This summary report will show effectiveness of programs not yet completed. A sub-report will show the detail of current program effectiveness. (Exhibit XIV)



4. Generated Unusual Effectiveness - This will be a generated report to show programs that differ materially from the goals established in the Gaming Model.
5. Analysis of Trends and Graph - This report will be a tabulation and graphic representation of program trends based on statistical analysis.
6. Programs Completed and Graph - This report will show program effectiveness on completed programs. (See Exhibit XV)
7. Inquiry Tabulation and Graph - Upon request, a report on the statistics of a single job will be prepared.

## COMPUTER SCHEMATICS

The Budget Application Areas FAME and GAME use two computers — the 705 III and the 7070. Business programs will be processed on the 705 III in New Orleans; mathematical programs will be functional on the 7070 in Dallas. With each computer a 1401 will be used for peripheral operations — card to tape, tape to card, and tape to print.

The 705 III computer program schematics and narratives were prepared by the System Design Work Group. The Operations Research Work Group developed the 7070 Computer program schematics and narratives. These programs are responsive to the output of the system as developed for current operations and responsive to the Manpower Inventory system developed for future operations.

The total system includes three major application areas — payroll, personnel, and budget. Budget is divided into two subapplications, identified by the mnemonics FAME and GAME.

FAME, Financial Analysis of Management Effectiveness, will receive data in two forms, magnetic tape and punched cards. From the payroll processing, a tape will be received giving the salary expenditures sorted into agency account distribution. The personnel application will supply a tape with data on all established positions within the Department. Associated with each position will be the accumulated salary and the length of time the position has been vacant.

The second form of input, punched cards, will represent the approved budget. After the approved budget is entered, adjustments may also be made via punched card entries.

Coding of the subcategories within the approved budget will allow reconstruction of segments to appropriations or allotments for the preparation of accounting registers.

The approved budget and the expenditures will be maintained on the Budget Master tape. From the combination of appropriations and expenditures the system will produce similar reports in two forms, one for the Departmental level and the other for the agency or allottee level. The reports will reflect the current status of expenditures versus allotments. In addition the system will project the current and accumulated expenditures to the end of the fiscal year.

Selected data from the Position and Job Master will be sorted into sequence by agency and grade. The report prepared will show all budgeted positions with the cumulative time vacant and cumulative costs against each position.

While FAME will be principally a control type of application, GAME will be concerned with an area of budget — the analysis of management effectiveness.

The first step necessary to perform this will be the fixing of standards of accomplishment. Management groups, familiar with what has been accomplished and what should be accomplished, will set the standards. Standards may also be borrowed from industry — standards set by research groups in industry for jobs that are common to both Government and industry. Historical data on programs completed will also be used to aid in establishing standards.

The system must also receive data on (1) appropriations, (2) relative value, and (3) fixed requirements. Management will fix the relative value of a work project in relation to other work projects. This value may be based on experience or economic research studies. The fixed requirements will be a type of relative value. These will be entered for those projects which, regardless of other factors, are required.

A mathematical model will translate the standards, funds, values, and requirements into a proposed optimum use of funds.

Probably the first use of the gaming model will be to find exactly what funds should be requested. Management will make a list of objectives that should be accomplished and the rates of accomplishment or standards. The model will then calculate the amount of money that will be needed. Management will review the results and enter fixed requirements for some of the objectives that are required. This same model will also be used as program adjustments are made. The remaining funds will be redistributed. This will continue until a satisfactory distribution for budget presentation is achieved.

Current work progress reports entered into the system will be compared with the expected rate and cost of accomplishment. The results will be analyzed on both a current and cumulative basis. This will provide a continuing evaluation of progress.

Detailed historical records will be maintained on accomplishment by reporting periods and on cumulative accomplishments for completed projects. These historical records will be consolidated for at least a year, and will be used in an analysis to determine trends of funds and programs. The trends developed will be used as feedback into the personnel application, which will use them in the development of projections of personnel requirements.

#### NARRATIVE FAME 009

To maintain a fully integrated method of recording and projecting budget information, it will be necessary to receive budget data other than personal services from each agency and allottee. All personal services budget information will be created as a result of the payrolling operation. The documents submitted on the other approved budget data will be transcribed into punched cards and converted to magnetic tape through this program.

#### NARRATIVE FAME 010

This program will accept the agency accounting distribution file (PADA 03091) created in PADA 030, the approved budget data file (FAME 00921) created in FAME 009 and the master budget file (FAME 01090). The purpose of this program will be to update the master budget file and to generate budget report tapes for subsequent printing.

The approved budget may be broken down into any number of categories. The payroll tape will contain an appropriation code for the purpose of charging salaries to the correct appropriation.

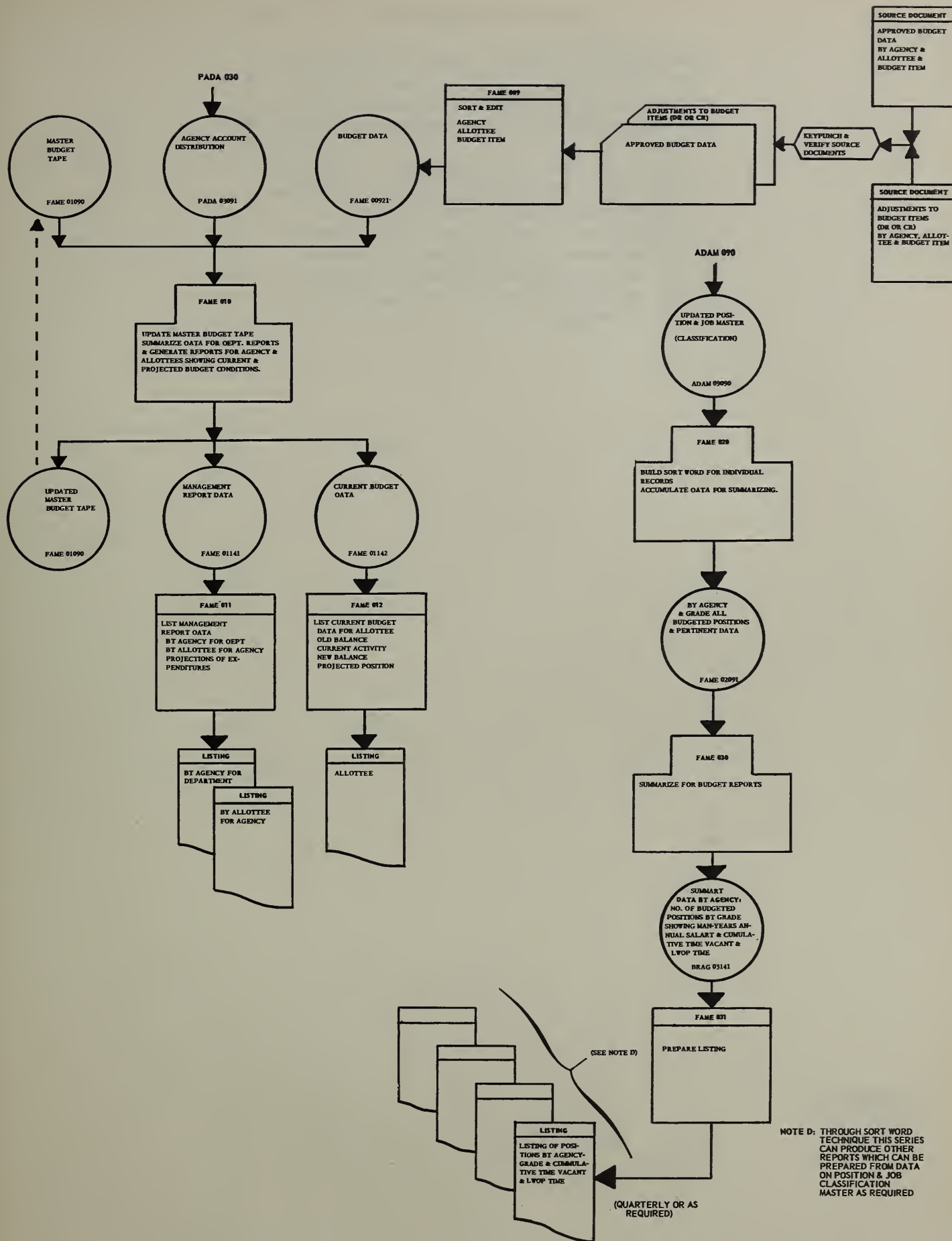
Management report data (FAME 01141) will be used to list by agency and allottee the expenditures and projections of expenditures. This report will be prepared for the Departmental level.

Current budget data (FAME 01142) will contain basically the same information. However, this report will be prepared for the allottee.

#### NARRATIVE FAME 020

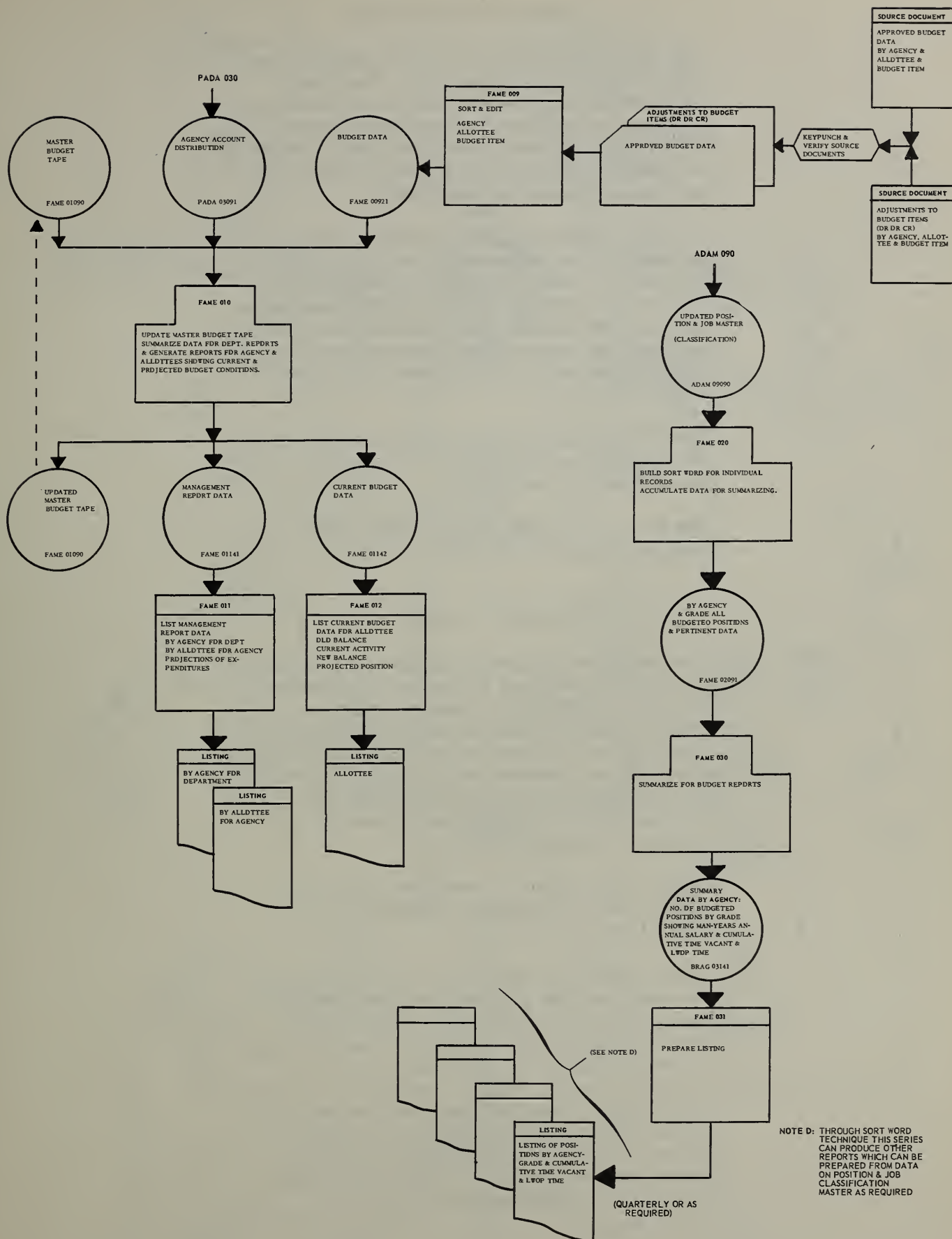
Annually or periodically as required this program will sort the updated position job classification master (ADAM 09090). This input will contain data for each established position from which many types of reports can be prepared through use of the sort word technique. Only the data required for a specific report will be selected from the file and will be preceded by a sort word to allow like records to be brought together by the sort. The sorted file will be used as input to FAME 030.





This program prepares reports, in detail or summary form as required, from the data selected in FAME 020. The following reports are representative of those which will be furnished:

- (a) Total number of permanent positions
- (b) Full-time equivalent of other positions
- (c) Average number of all employees
- (d) Number of employees at end of year
- (e) Average grade by position grouping
- (f) Average salary by position grouping
- (g) Position schedule for permanent employment



## NARRATIVE GAME 005

This computer program sorts and updates the records for input to GAME 010. The input, GAME 00421, contains standards established by research groups (precedented) and standards fixed by management (unprecedented). The input GAME 00590 contains sorted standards from the last processing of GAME 005.

The unprecedented standards will be developed by people in the Department who have a good knowledge of what has been accomplished and what should be accomplished by different work groups. The precededented standards are those developed by research groups in industry for projects common to both industry and government.

After the initial processing, this computer program will be used only to enter corrections to the established standards.

The sorted standards, GAME 00590, will be used as input to GAME 010.

## NARRATIVE GAME 040

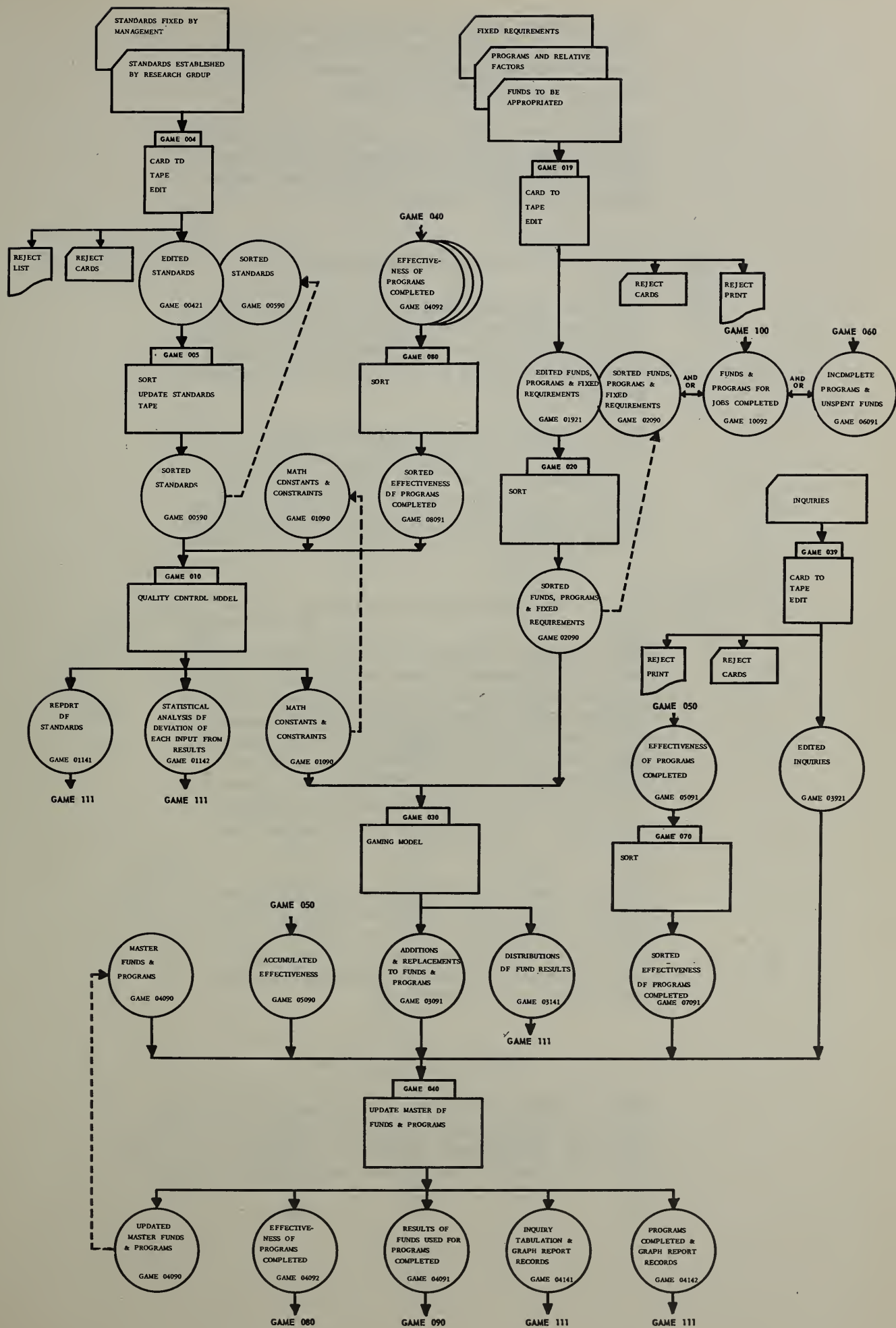
This computer program maintains and updates the Master Funds and Programs tape with the data from GAME 03091, answers inquiries relating to specific funds or programs, produces results of use of funds for historical updating in GAME 090, analyzes effectiveness of completed work projects, and by means of a subroutine, produces graphic representation of completed programs.

GAME 04090, Master Funds and Programs, will be used in GAME 040, GAME 050, and GAME 060.

GAME 04091, results of fund use for completed programs, will be used as input to GAME 090. These tapes will be consolidated for a year. From these consolidated results trends of funds and programs will be developed.

GAME 04092, effectiveness of programs completed, will be used as input to GAME 080. These tapes will be consolidated and subsequently entered into GAME 010 to show what the actual accomplishment has been.





GAME 04141, inquiry tabulation and graphs, answers to specific inquiries as well as plotted graphs representing inquiry answers, will be used as input to 1401 operations.

GAME 04142, program completion and graphs, listing of programs completed, as well as related graphs representing completions, will be used as input to 1401 operations.

#### NARRATIVE GAME 020

This sort and edit computer program creates the output (GAME 02090) from the card-to-tape record on the initial run. Thereafter, changes introduced via card to tape are merged with the previous output.

This computer program combines the funds available, relative value of programs, and fixed requirements. GAME 020 will be used in the budget construction process. The merged data will be passed to the gaming model for determining the distribution of funds.

#### NARRATIVE GAME 010

This computer program will use statistical analysis techniques to determine from the inputs just what the standards should be. The printed report of these standards will indicate areas where differences of opinion (Standards, GAME 00590) and fact (Effectiveness of Programs Completed, GAME 08091) exist. Management will evaluate these differences and the standards or the computer programs may be adjusted.

The principal objective of this program is the creation of the Math Constants and Constraints (GAME 01090). This tape will define the rates of effectiveness that should be accomplished. The constraints are the items which are to be considered during evaluation.

#### NARRATIVE GAME 030

This computer program is called the gaming model. The competitors are the various activities of the Department. Each has a relative value and rate of accomplishment and each is



competing for the funds available. The objective will be to obtain the optimum use of funds.

The gaming model will produce a report (GAME 03141) of suggested distribution of funds. It may indicate that some programs should be completely eliminated. Management will review the results and, if acceptable, then the GAME 03091 file will be used as input to GAME 040.

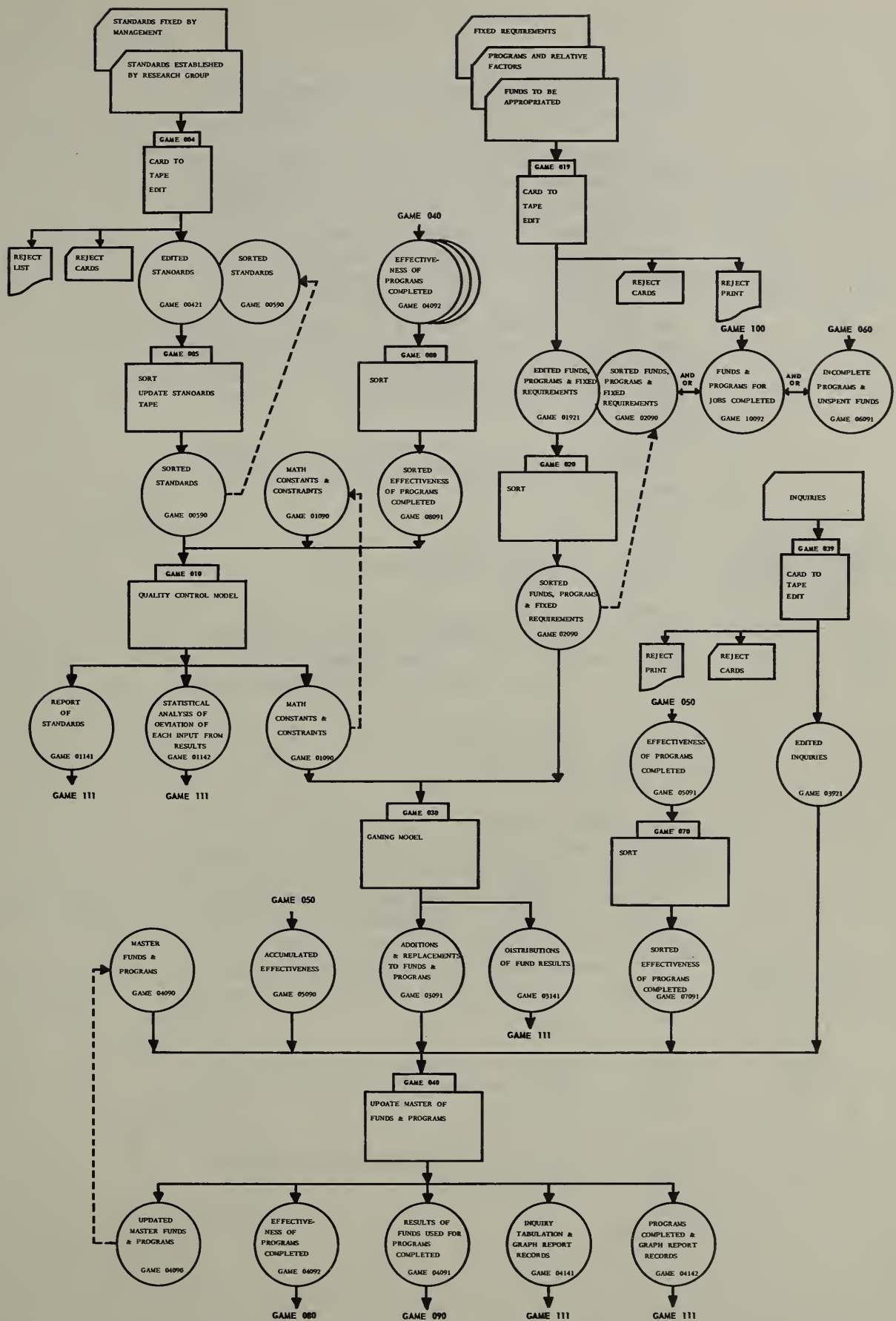
#### NARRATIVE GAME 070

GAME 070 consolidates the effectiveness of programs completed. The output will be used in GAME 040.

#### NARRATIVE GAME 080

This computer program is a sort that will sequence the several reels of output from GAME 040 into one sequence for use in GAME 010. The number of reels of input depends on the frequency of processing GAME 010.





## NARRATIVE GAME 050

This program will use statistical analysis techniques (mathematical mode) to evaluate and analyze the effectiveness of work projects.

By using as input the budget spent and work progress for both the current and the immediately preceding reporting period, the program will develop effectiveness by period. The reporting period effectiveness reports are then accumulated for the cumulative effectiveness.

At the time a work project is completed all the reports are removed from the accumulated effectiveness master tape and placed on the output, which goes to GAME 070.

This program also will watch for any unusual effectiveness and generate special reports for management.

## NARRATIVE GAME 060

This computer will adjust the data on the Master Funds and Programs tape by the work progress to date and money spent for programs not yet completed and produce reports showing:

1. Original data
2. Work completed
3. Work remaining

This will be produced for all work if the input GAME 05921 is not used. Only those programs adjusted will be produced if GAME 05921 is used as input. Additionally, an output consisting of incomplete programs and unspent funds will be created for entry into the Gaming Model (GAME 030). Consequently, any time this particular computer program is used the Gaming Model will also be required.

GAME 06091, incomplete programs and unspent funds, may be substituted for GAME 02090 as input to GAME 020.

GAME 06141, report records, will be used for 1401 print operations.



#### NARRATIVE GAME 090

This computer program sorts the results of fund use for programs completed (GAME 04091) and the history of programs completed (GAME 09090). This computer will consolidate fund usage for the development of trends in fund use and programs.

#### NARRATIVE GAME 100

This computer program uses statistical analysis techniques (math model) to analyze use of monies and jobs, and program trends. The input is a historical record which will be accumulated over a period of at least one year.

GAME 10091, will be used as input to MOHR 130 for use in development of personnel trends.

GAME 10092, funds and programs for jobs completed, will be used as input to GAME 020 for developing next year's budget.

GAME 10093, reports and graphs of trends analysis, will be used as input to GAME 110.

#### NARRATIVE GAME 110

This computer program sorts listing outputs from other computer runs by previously created sort words. This places each report or graph in proper order for printing on the 1401. This is a generalized program which may have additional inputs.

GAME 11091, sorted listings, will be used in 1401 listing programs.





Sample-Present System

PERSONNEL COMPENSATION IN  
THE OBJECT SCHEDULES

	PY actual	CY estimate	BY estimate
	(in thousands of dollars)		
11. Personnel Compensation			
Permanent positions . . . . .	2,332	2,577	2,613
Positions other than permanent . . . .	11	11	10
Other personnel compensation . . . . .	31	21	11
Total personnel compensation . . .	2,374	2,608	2,633
12. Personnel benefits . . . . .	160	189	191

Personnel Summary

	PY actual	CY estimate	BY estimate
Total number of permanent positions . . . . .	326	329	332
Full-time equivalent of other positions . . . . .	1	1	1
Average number of all employees . . . . .	310	319	322
Number of employees at end of year . . . . .	315	321	324
Average GS grade . . . . .	8.8	8.8	8.8
Average GS salary . . . . .	\$7,341	\$7,962	\$7,986

PY - Prior Year  
CY - Current Year  
BY - Budget Year

Sample-Present System

DATA ON PERSONAL SERVICE

DATA ON PERSONAL SERVICE  
(As reported in the budget schedules)

	Number of employees at end of year			Obligations for personnel com- pensation (in thousands of dollars)		
	19PY	19CY	19BY	19PY	19CY	19BY
Salares and expenses . . . .	315	321	324	2,374	2,608	2,633
Advances and reimbursements . . . . .	40	42	45	226	231	251
Working capital fund . . . . .	182	168	169	655	604	610
Allocations to other bureau and agencies. . .	8	6	3	40	31	16
XYZ trust fund . . . . .	89	123	115	455	565	520
Total employment and ll obligations included in budget schedules for Office of the Secretary . . . . .	634	661	656	3,750	4,039	4,030

SAMPLE - Actual Format to be Designed

OUTPUT

(One Schedule for Each Agency and Each Appropriation)

U. S. D. A.

F-REPORT OF PERSONNEL SUMMARY

Agency \_\_\_\_\_

F. Y. \_\_\_\_\_

Appropriation \_\_\_\_\_

---

ITEM

---

I. OBJECT CLASSIFICATION

OBLIGATIONS

11-Personnel compensation

Permanent positions

Positions other than permanent

Other personnel compensation

Total personnel compensation

\_\_\_\_\_

12-Personnel benefits

II. PERSONNEL SUMMARY

NUMBER

Total number of permanent positions .

Full-time equivalent of other positions

Average number of all employees

Number of employees at end of year

Average GS grade

Average GS salary

Average Ungraded salary

---

One annual report will be prepared by the MDSC for each appropriation under an agency. The data for object classification 11 and 12 will be derived from payroll expenditures accumulated on the Budget Master File Tape. Personnel Summary will be related to other budgetary and personnel reports. Averages for grade and salary will be computed as prescribed.



SAMPLE - Actual Format to be Designed

OUTPUT  
(One Schedule for Each Agency)

A. Detail of Personnel Compensation

One consolidated schedule will be prepared for each agency. The data for the past fiscal year will contain the following items:

<u>Item</u>	<u>Number of Positions</u>	<u>Total Salary</u>
Grades and ranges:		
Special positions at rates equal to or in excess of \$18,500:	1	\$ 19,000
Administrator		
GS-18, \$18,500		
Deputy Administrator, Regulatory (Other grades & Operating titles omitted)	1	17,514
GS-14, \$12,210 - \$13,510		
Agriculturist (Other operating titles omitted)	10	118,664
GS-13, \$10,635 - \$11,935		
(Other GS grades omitted)	655	6,871,750
Salaries established under the Act of April 24, 1948 (21 USC 113a) Director, Research Laboratory	2	34,000
(Other grades omitted)	*	*
Ungraded positions at annual rates:		
\$12,210 and above		
Animal Husbandryman	2	29,300
Less than \$12,210	268	791,189
Ungraded positions at hourly rates equivalent to less than \$12,210	<u>1,982</u>	<u>8,566,040</u>
Total permanent	16,776	97,883,260

<u>Item</u>	<u>Number of Positions</u>	<u>Total Salary</u>
Deduct:		
Lapses	1,452.7	\$ 7,060,200
Portion of salaries shown above paid by States	91.4	611,337
Portion of salaries shown above paid from other accounts	6.4	48,461
Add:		
Portion of salaries carried in other position schedules paid from this account	1.	4,547
Net increase due to Wage Board pay adjustment		69,813
Net permanent (average number net salary):		
United States and possessions	15,000.6	89,591,197
Foreign countries:		
United States rates	191.6	610,959
Local rates	34.3	35,466
Positions other than permanent:		
Temporary employment:		
U. S. and possessions		2,395,915
Foreign countries, local rates		25,682
Part-time employment:		
U. S. and possessions		495,427
Foreign countries, local rates		2,224
Intermittent employment:		
U. S. and possessions		1,161,579
Foreign countries, local rates		29,742
Other personal services:		
Regular pay above 52-week base		708,811
Overtime and holiday pay		5,643,150
Night work differential		195,820
Additional pay for service abroad		166,713
Payment to other agencies for reimbursable details		<u>3,206</u>
Total personal services		\$101,065,899
Salaries and wages are distributed as follows:		
"Salaries and expenses"		\$ 90,243,042
*(Other funds omitted for illustration purposes)		

SAMPLE - Actual Format to be Designed

<u>OUTPUT</u>	
<p style="text-align: center;">U. S. D. A</p> <p style="text-align: center;">REPORT OF LAPSES, LWOP, AND TERMINAL LEAVE</p> <p>F. Y. _____</p>	<p>Agency _____</p> <p>Division _____</p>

LAPSE BY CATEGORY

Filling Vacancies		Filling New Positions		Abolished Positions		LWOP		Total	
Hours	Amount	Hours	Amount	Hours	Amount	Hours	Amount	Hours	Amount

Agency (summary) and separate schedules for each division will be prepared by the MDSC. Data will be accumulated by hours for each lapse and LWOP category. Report will be converted to man-years for reporting on the Schedule on Detail of Personnel Compensation.

Totals

<u>SUMMARY</u>		
<u>Lapse</u>	<u>LWOP</u>	<u>Terminal Leave Payments</u>
Amount		
Man-years		

SAMPLE - Actual Format to be Designed

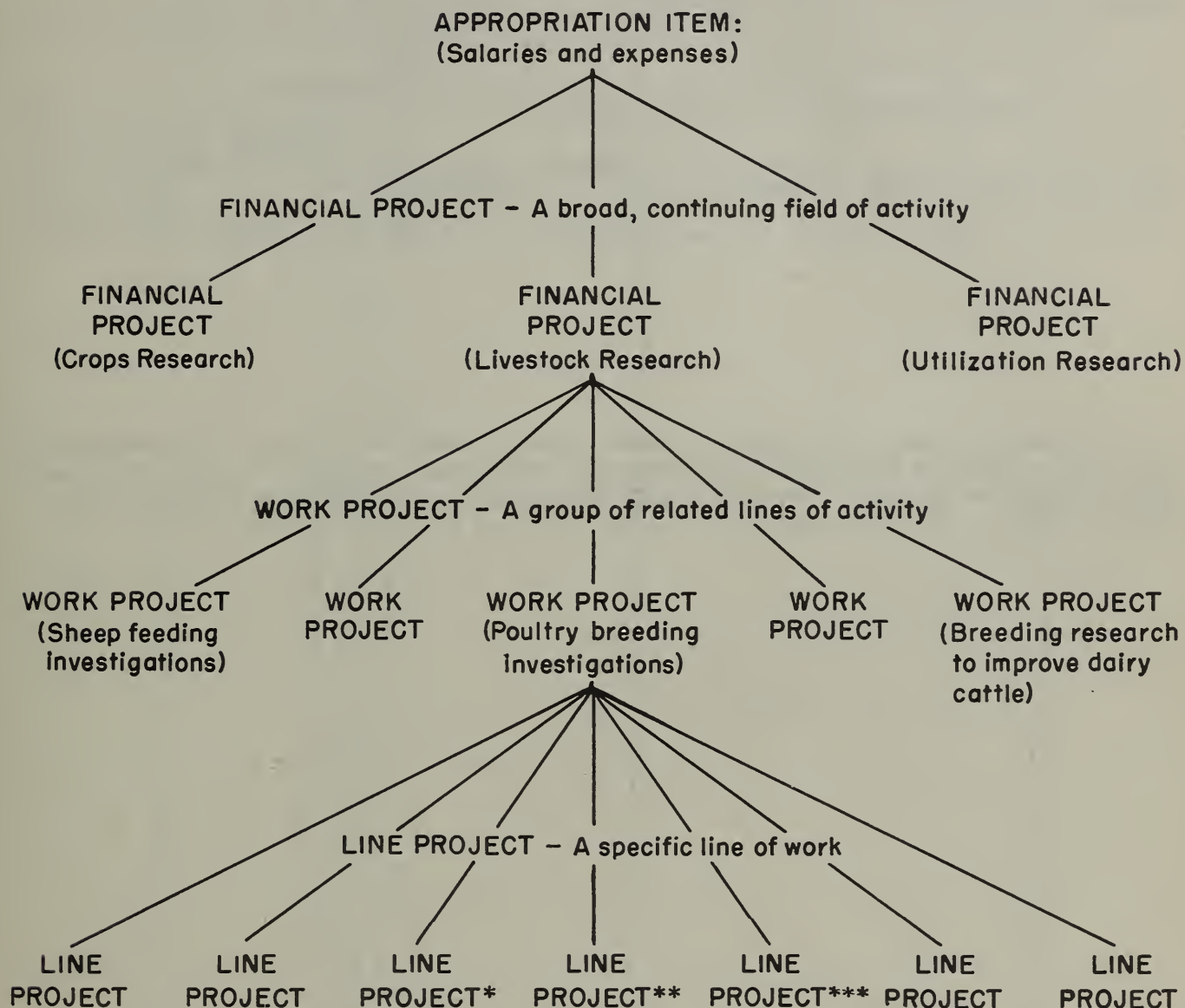
OUTPUT

U. S. D. A.		Agency _____			
E-DISTRIBUTION OF POSITIONS AND JUNE EMPLOYMENT		Division _____			
F. Y. _____					
Appropriation or Fund	Total Number of Positions	Full-Time Employment as of June 30		Part-Time Employees Paid In June	WAE Employees Paid in June
		Regular Indefinite	Limited		

One annual report will be prepared by the MDSC for each division and agency. It will show by fund the number of positions reported on the Schedule on Detail of Personnel Compensation. The data on employment will be the same as reported in the SF-113.



# DIAGRAM OF UNIFORM PROJECT SYSTEM



- \* Development of a heat-resistant strain of single-comb White Leghorns
- \*\* Inheritance and improvement of meat quality in poultry
- \*\*\* The effect of inbreeding and crossbreeding in the domestic fowl

SAMPLE - Actual Format to be Designed

INPUT

U. S. D. A.

Agency \_\_\_\_\_

ANNUAL OPERATING PLAN BY ACTIVITY

Organizational  
Unit \_\_\_\_\_

F. Y. \_\_\_\_\_

Location \_\_\_\_\_

Allotment or Subaccount Code	Month	Financial Project	Estimated Man-Years		Estimated Obligations for Personal Services	
			Program	Administra- tive Support	Program	Administra- tive Support

At the beginning of each fiscal year, a report will be submitted by each organizational unit in an agency which is responsible for incurring obligations. The report will include all funds available to the unit. Estimates will be made for man-years and obligations for personal services for each allotment or subaccount and for each activity.

INPUT	OUTPUT
1	1
2	4
3	9
4	16
5	25
6	36
7	49
8	64
9	81
10	100

U.S.D.A.

Agency

# DISTRIBUTION BETWEEN PROGRAM AND ADMINISTRATIVE SUPPORT FUNCTIONS

## Organizational Unit

Location

Period

F. Y.

[illegible]

This report will be prepared monthly for each unit which submitted an annual operating budget plan.

11/ Where distributions are to be made by formula already submitted, report only totals.

SAMPLE - Actual Format to be Designed

U.S.D.A.

Agency\_\_\_\_\_

MAN-YEAR ANALYSIS - BY ACTIVITY

Period\_\_\_\_\_F.Y.\_\_\_\_\_

Activity	Organiza- tional Unit	Man-Months								Projection Index
		Budgeted		Actual		Variation				
		For Month	Year to Date	Current Month	Year to Date	Current		Year to Date		
						No.	%	No.	%	



SAMPLE - Actual Format to be Designed

U.S.D.A.

Agency\_\_\_\_\_

ANALYSIS OF OBLIGATIONS FOR PERSONAL  
SERVICES - BY ACTIVITY

Period\_\_\_\_\_ F.Y.\_\_\_\_\_

Organizational Unit	Obligations		Variation				Projection Index
			Current		Year to Date		
	Budgeted	Actual	\$	%	\$	%	

REPORTS ON EFFECTIVENESS

Detail Reports

1. Obligations and expenditures by appropriation, budget activity, or appropriation sub-head.
2. Manpower Utilized and personnel strength by agency.
3. Functions financed by working capital fund.
4. Public works projects.
5. Program results, production costs, and changes by function.
6. Inventory status, transactions, and trends.
7. Research program status and costs.

Consolidated Reports

1. A phased plan, schedule, or target as established by an agency would be recorded at the beginning of the fiscal year.
2. Periodically actual performance data would be recorded and measured against the plan, schedule, or target.

Use

1. Status and progress of operations.
2. Performance deviations are brought to the attention of management.

## AIR POLLUTION CONTROL AGENCY - SIMULATED

## Distribution of Funds - Programs Assumed

APPROPRIATION (program)	ACTIVITY (Financial Project)	SUB-ACTIVITY (Work Project)	RELATIVE COST	RELATIVE VALUE
1. Air Pollution Prevention	A. Local Assistance	(1) Air Surveys	45%	55%
		(2) Control plants	55%	45%
	B. Technical cooperation	(1) Municipalities	26%	40%
		(2) States	44%	30%
		(3) Area organizations	17%	20%
		(4) Private industry	13%	10%
APPROPRIATION TOTAL: \$97,075,000				
2. Air Pollution Control	A. Investigation and planning	(1) Surveys	29%	40%
		(2) Plans	41%	25%
		(3) Costing and evaluation	10%	15%
		(4) Implementation	20%	20%
	B. Installation of Control Facilities	(1) Pilot installations	4%	20%
		(2) Control facilities	96%	80%
	C. Funding Operations	(1) Loans	95%	90%
		(2) Subsidies	5%	10%
	D. Development of Long-range Programs	(1) Private industry	77%	60%
		(2) Public agencies	6%	15%
		(3) Area organizations	17%	25%
APPROPRIATION TOTAL: \$45,387,000				
TOTAL ALL FUNDS				

\*\*\*\*\*

This is a sample of the output from the Gaming Model. The following data will be used to produce this output:

1. Appropriations
2. Relative value
3. Objectives to be accomplished
4. The quality control standards of accomplishment expected.

## CURRENT EFFECTIVENESS SUMMARY

Air Pollution Control Agency

PROGRAM (Appropriation): Air Pollution Control  
ACTIVITY (Financial Project): Investigation and Planning

Sub-Activity (Work Project)	Unit of Measure	BUDGETED		UNITS PLANNED		EXPENDED		UNITS ACCOMPLISHED		COST PER UNIT		MAN YEARS PER UNIT		EFFECTIVENESS INDEX	
		1000 Dollars	Man Years	Number	Man Years	1000 Dollars	Man Years	Number	%	Budgeted	Year-to-Date	Budgeted	Year-to-Date	Fiscal	Personnel
Surveys	Surveys	1,089	140	275	60	860	60	130.4	47	4	7	8	14	.57	.57
Plans	Plans	1,530	120	80	20	400	20	18.2	23	19	22	13	20	.87	.65
Costing & Evaluation	Project	358	60	70	15	110	15	20.0	29	5	6	6	7	.83	.86
Implementation	Project	744	40	80	18	200	18	30.0	38	9	7	19	11	1.29	1.73

Effectiveness Index -- Cost Per Unit - Budgeted  
Cost Per Unit - Year-to-Date

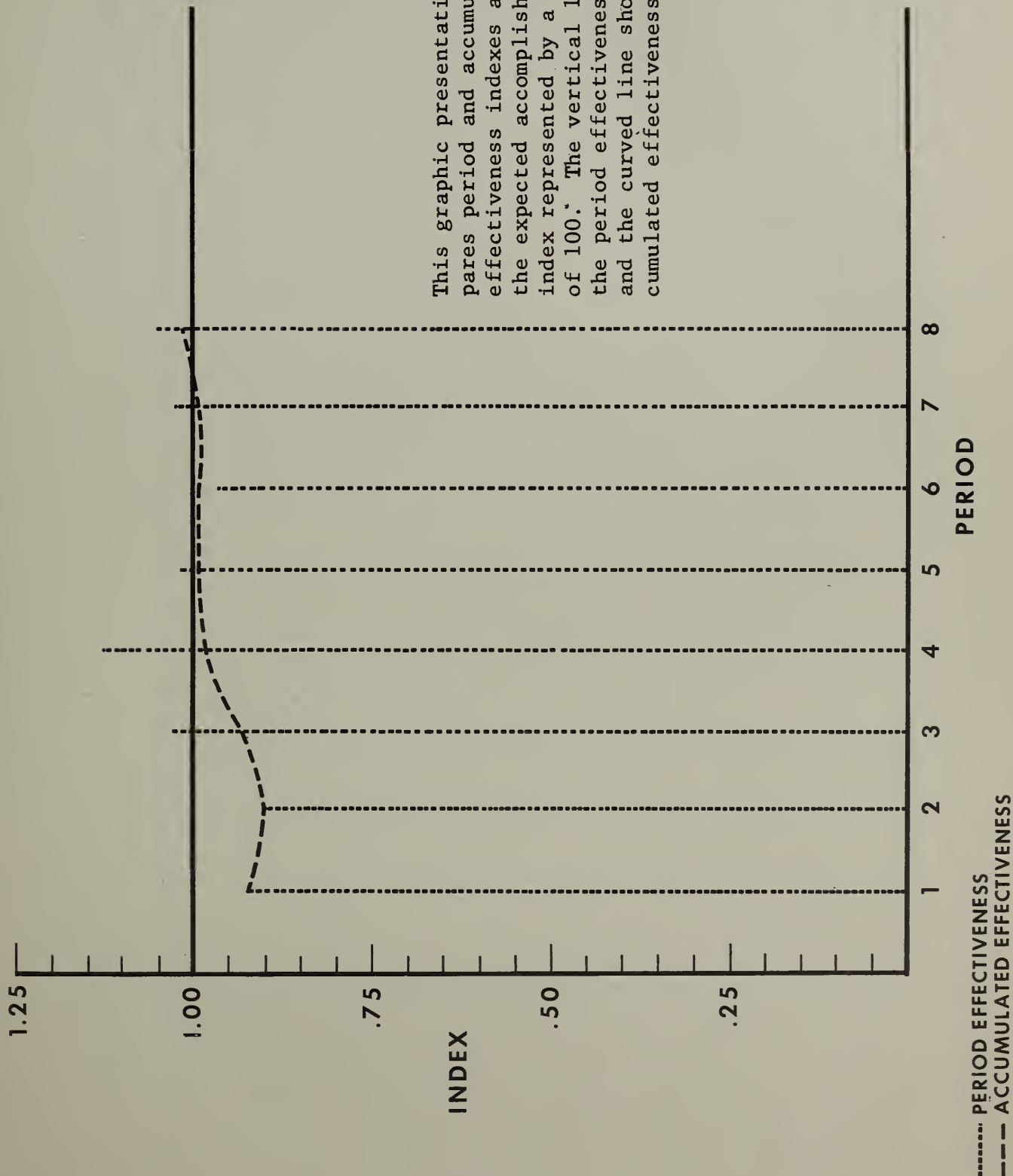
\*\*\*\*\*

This Table presents the summary of the analysis of effectiveness for each appropriation, activity and sub-activity. It is a guide to the actual use of manpower and funds as the period progresses. Each summary will be accompanied by related detail analyses showing the proportion of the budget and man hours expended for direct program effort and support effort. The support effort will be subdivided by planning, supervision, and management, personnel services, budget, fiscal and accounting services, administrative services, information, education and public relations, and inspection and audit.



# GRAPHIC PRESENTATION OF EFFECTIVENESS OF PROGRAMS COMPLETED

Exhibit XV  
Budget





COST

Result of Cost Study

Exhibits





## RESULT OF COST STUDY

### Objectives of the Cost Study

The cost study group had two objectives:

1. Determine the costs involved in the present methods and procedures relating to payroll, leave, retirement, and related operations; the processing and maintenance of personnel records; and the preparation of certain budget reports.
2. Compute the costs of a new integrated system for personnel, payrolling, and related budget and accounting activities, including a system for manpower resources and management effectiveness.

### Summary of Findings

The findings of the study show that the functions transferable to the integrated system have cost an estimated \$3.3 million a year and required 562 man-years to accomplish. With the proposed system, the cost of the transferred functions will be reduced by \$1.5 million; man-years will be reduced by 241.

The complete proposed system will take an estimated two years before all the problem definition, programming, testing, conversion, and other development work is completed. It is expected, however, that payrolls, personnel, and budget functions could be operative by the end of the first year. Meanwhile the present systems must continue in operation. In the second year, developmental work on manpower inventory and management effectiveness will continue. In the third year, the system will be in complete operation. Because the system will be placed in gradually, it will be 2 years before the development cost — \$961,190 — will be fully recovered.

The proposed system is economically feasible and advantageous as indicated by the following summary:

#### Estimated Annual Costs:

Present system	\$3,302,036
Proposed system - complete operation	<u>1,820,367</u>
Cost reduction per year	<u><u>1,481,669</u></u>

### How the Study Was Conducted

Costs and workload of the present system were developed primarily from three questionnaires sent to and completed by payroll, personnel, and budget offices of the Department servicing employees in the continental United States. Dollar and man-year costs for the year ended June 30, 1961, were obtained by object of expenditure and by specific functions or activities.

Costs were ascertained for the following payroll functions:

- a. Routine payroll operations.
- b. Payroll funding operations.
- c. Leave operations.
- d. Retirement operations.
- e. Payroll accounting.
- f. Reporting and related payments.
- g. Other functions not included in "a" through "f".

- h. Man-years and costs of any person who directly supervises employees engaged in activities listed in items "a" through "g".

Costs were obtained for the following budget functions:

- a. Maintenance and preparation of position and salary data for current and budget years.
- b. Maintenance and preparation of past fiscal year expenditure for salary items.
- c. Maintenance and preparation of reports on positions for past fiscal year.
- d. Data for lapse in positions
- e. Maintenance and preparation of position listings.
- f. Preparation of agency estimates of personal service information.

These payroll and budget functions are adaptable to centralized integrated system techniques.

The questionnaires were designed to obtain estimate of costs directly from the payroll and budget offices throughout the country. Most of the offices do not keep costs records, but the cost and volume data represent the best estimates that could be made by people familiar with the operations.

The Personnel Work Group obtained costs and volume data on personnel offices. The cost of each office was separated between nonclerical and clerical personnel. The costs were then computed for the functions to be included in the integrated system.

Information was obtained on the following personnel functions:

- a. Processing personnel actions.
- b. Maintaining personnel records and files.
- c. Promotion and Reduction in Force (RIF) registers.
- d. Regular external reports.
- e. Regular internal reports.
- f. Special external reports.
- g. Special internal reports.

The total cost of personnel offices amounted to \$7,358,266. The nonclerical cost was \$5,522,060; clerical cost was \$1,836,206. The clerical cost was adjusted to omit consideration of small agencies in the application of the formula, discussed below, and the adjusted amount was \$1,834,612. The cost of the activities to be included in the proposed system amounts to \$699,663.

The Personnel Work Group estimated that personnel offices will continue to prepare 30 percent of the number of SF-50's (Notification of Personnel Actions), and 25 percent of the SF-1126's (Payroll Change Slips) that they now prepare. The remainder of the forms, or their equivalent, will be prepared by the proposed system. It takes one-half man-hour to prepare each of these forms in personnel offices. (This time requirement is based on a recent time study by one of the large agencies of the Department and is supported by the judgment of the Work Group.) Thus, for each man-year (1,800 working man-hours), 3,600 forms can be prepared. By dividing the number of forms to be prepared under the new system by 3,600, a formula, or percentage for figuring cost reduction, can be determined. The cost reduction for processing personnel actions is 31.4 percent.

Similar formulas were developed for determining cost reductions for maintaining certain personnel records. One of the records maintained is the Employee Service Record (SF-7) and related tickler files and notices prepared from the ticklers. One SF-7 is maintained for each full-time permanent employee and for approximately 5,000 part-time and intermittent employees for a total of approximately 76,000. Maintenance of the SF-7's will be transferred to the new system. Since each card requires about 1 man-hour per year, the potential man-year reduction for maintaining personnel records is estimated at 10 percent.



Promotion registers require most of the time reported for promotion and reduction-in-force registers and will continue to be prepared in the personnel office. Reduction-in-force registers will come from the system and will reduce personnel office work by about 10 percent.

The Personnel Work Group gathered copies and determined frequency of all regular recurring reports. Each report that could be prepared from the information available in the system was identified. An analysis of the reports indicated the percentage of man-years now required for manual reports which would be prepared by the Data Processing Center (DPC). The percentages are 90% for recurring external reports, 70% for recurring internal reports, and 50% for special reports.

Cost estimates and other data were obtained for the year ended June 30, 1961. Because all information used in this study covered a complete fiscal year, seasonal peaks and valleys were eliminated and normal activities for a year, such as budget and other annual reports, included. Many of the offices were currently developing information relating to their activities for the year and thus were able to furnish better estimates of costs for these activities.

On June 30, 1961, the Management Operations Staff, AE, had been in operation approximately 1-1/2 months. Consideration was given to this limited period of operation in all cost computations.

All completed questionnaires were carefully reviewed. In each case where there was incomplete data, obvious inconsistencies with other offices, apparent misunderstandings of request for data and other similar questions, the matter was resolved with representatives of the agencies involved.

Some costs of present operations either were not requested when the questionnaire was prepared or were omitted by agencies in replying. The purpose of the study did not warrant another questionnaire to obtain the information. A list of omissions follows:

- a. Replies to the payroll questionnaires did not include all telephone and postage costs. Costs on depreciation of equipment were not included.
- b. The budget questionnaire requested only personal service costs. Therefore, cost was not determined for space, equipment, and supplies.
- c. The personnel questionnaire requested costs for persons who spend more than 50% of their time in personnel work. Therefore, costs were not ascertained for those who spend less than 50% of their time in this work, nor for other objects of expenditure.
- d. No data was obtained on the cost of processing employments and changes under "letters of authorization" because such actions are not processed in personnel offices.

Because of the limited time available for the offices to reply to the questionnaires, the lack of cost records on which to base estimates, and the cost items which were not included, the calculations in this study should be considered as the best available estimates prepared by individuals experienced in each of the specific areas. The Cost Group believes that costs of the present system as presented in this report are conservative estimates.

#### Principles and Assumptions

Under Personal Services two factors were given consideration: (1) the cost of functions to be transferred to the proposed system, and (2) the number of employees whose functions would be transferred.

In considering the first factor, costs were first computed on the basis of including the full salary of an employee who worked 50% or more of his time on a transferable function and excluding the full salary of an employee who worked less than 50% of his time on such functions. The results of this computation showed that the computed costs would be slightly more than the total costs reported. It was then decided to use the costs and man-years reported by each agency for the functions transferred.

In considering the second factor, only employees who were working full time on transferable functions in the present system were considered.

Undoubtedly a considerable amount of equipment would become surplus to the needs of present offices if the various functions were transferred. Nevertheless, in the estimates none of the cost of this equipment has been considered available for use in the proposed system.

Estimates of cost of space, which were reported on the questionnaire for the present system, were reduced by the amounts reported for space provided by General Services Administration.

The costs of the proposed system include the cost of a central office, designated as the "Management Data Service Center", to be located in New Orleans, Louisiana. This office will review and prepare incoming data on payroll, budget, and personnel activities for input to the system and return outgoing data and reports to destinations in the Department. Also included are costs for establishing procedures, problem definition, programming, conversion from the old to the new system, and the annual cost of operation of the MDSC. The computer installation at New Orleans is owned by the Department.

The costs for the proposed system also include processing data on a rented computer at Dallas, Texas, to produce information not presently available to management. Included are programs related to manpower and management effectiveness. Costs include establishing the system, problem definition, programming, and testing; establishing a special manpower resources inventory; development research in testing; and the annual operation of the system.

The estimated purchase price of furniture and equipment needed to equip the MDSC is amortized over a 10-year period. The cost of magnetic tape is amortized over a 5-year period. The amortization of these items is included in annual operating costs.



## Results

The results of the study are shown in the following summary:

### Annual Costs on a Fully Implemented Basis

<u>Costs reported:</u>		<u>Amount</u>
Payroll and payroll-related	\$2,387,560	
Personnel costs - clerical	1,834,612	
Budget	<u>225,912</u>	
Total costs reported		\$4,448,084
<u>Costs of functions not transferred to proposed system</u>		<u>1,146,048</u>
<u>Costs of functions transferred to proposed system</u>		<u>\$3,302,036</u>
<u>Costs of the ADP System to perform above functions:</u>		
MDSC costs	\$1,290,865	
Computer costs	<u>466,891</u>	
Total Costs - ADP System		<u>\$1,757,756</u>
<u>Reductions in costs on presently performed functions</u>		<u>\$1,544,280</u>
<u>Cost of new functions on ADP:</u>		
Manpower resources inventory	\$ 45,966	
Management effectiveness	<u>16,645</u>	<u>\$ 62,611</u>
<u>Net Reductions in Costs</u>		<u><u>\$1,481,669</u></u>

Exhibit A shows the reported costs, the costs of functions not transferred to the proposed system, and the cost of functions transferred to the system as above.

Exhibit B shows total costs for administrative support reported by object of expenditures:

Personal services	\$3,962,850
Equipment	167,121
Space	192,133
Other	<u>125,980</u>
Total	<u><u>\$4,448,084</u></u>

The annual reported costs of servicing an employee under the present system is \$24.67 for payroll and payroll-related functions; \$2.33 for budget functions; and \$18.96 for personnel clerical costs — a total of \$45.96 per employee. For transferable functions the annual cost is \$34.12 per employee.

Schedule B-1 shows the annual payroll costs by agency and per person. In determining these costs per agency, the number of employees reported for the high and the low pay periods of the

year were added together and divided by two to obtain an annual average number of employees — 96,783. This average was divided into the total costs to determine the cost per employee serviced. Adjustments were made where the number of employees included large numbers of casuals. The schedule also shows an average annual cost for payroll servicing of an employee by method of processing: \$28.30 for the manual method, including the use of book-keeping machines, and \$16.49 for the automatic machine method.

Exhibit C shows a summary of conversion and development costs for all of the proposed system amounting to \$961,190.

These costs will be incurred in the new system over a period of two years after a decision to install the system. At the MDSC the first year will be required to establish and write procedures, problem definition, programming, and testing. In the second year the data for 10,000 employees will be put on the new system each pay period and will be completed for all employees by the end of 6 months. In the last 6 months of the second year and thereafter the new system will be in full operation at New Orleans.

In the manpower resources and management effectiveness programs at Dallas, problem definition, programming and testing will continue for the first 2 years after this program will be fully operative.

To staff the MDSC, a staff of 241 persons is provided for at an annual cost of \$1,290,865. During the first year, however, while procedures are being established and written, only a small group of 17 persons, the "cadre", would staff the center; salary costs would approximate \$98,774.

Included in the input costs at New Orleans is an estimated amount of \$99,000 for converting current data on personnel actions from the present to the proposed system; included in the cost at Dallas is an estimated amount of \$238,200 to transfer the manpower inventory data now in personnel offices to the manpower inventory.

Exhibit D summarizes the annual operating costs on a fully operative basis — \$1,820,367.

The MDSC costs include estimates for personal services, office equipment, space, supplies, telephone, printing, postage, teletype, travel, and maintenance and repair.

The cost of equipping the office was based on the assumption that new equipment would be purchased and the cost amortized over 10 years; however, it is not unreasonable to assume that much of the needed equipment would come from the elimination of its use in present offices because of the elimination of functions. Purchase cost was estimated at \$79,330 or a yearly cost of \$7,933, and the estimates were related to the needs of the proposed staffing pattern.

Space costs were computed at 82 square feet per person at a rate of \$4.00 per square foot. It was assumed that a teletype would be attached to the present Agricultural Stabilization and Conservation Service facility.

The computer system comprised of a 705 and a 1401 now owned by the Agricultural Stabilization and Conservation Service and a rented 7070, would be utilized at an estimated annual cost of \$495,243. Included in the annual operation is the cost of magnetic tape amortized over 5 years.

Exhibit E shows a comparison between the present system and the proposed system on a fully operative basis. It is estimated that the reduction in costs from the proposed system would fully offset all conversion and development costs about the middle of the last month in the second year after the decision to establish the proposed system. Thereafter costs would be reduced by \$1,481,669 each year in comparison with the present system; man-years would be reduced from

562 to 321, a net reduction of 241 man-years. The number of full-time employees working on the functions transferred would be reduced from 320 to 243, a net of 77.

All exhibits and supporting schedules are attached.

On the basis of its study the Cost Group finds that it is economically feasible to adopt the proposed system.

## COST STUDY

### Exhibits and Schedules

#### Exhibit A    Reported Costs and Costs of Functions Transferred to ADP System

Schedule A-1	Payroll and Payroll Related Costs Reported - Present System
Schedule A-2	Personnel Section Costs - Present System
Schedule A-3	Budget Section Costs Reported - Present System
Schedule A-4	Man-Years Reported and Transferred to ADP System

#### Exhibit B    Reported Costs by Objects of Expenditures

Schedule B-1	Payroll and Payroll Related Costs Reported - By Objects of Expenditures
Schedule B-2	Personnel Section Clerical Costs Reported - By Objects of Expenditures

#### Exhibit C    Summary of Conversion and Development Costs

Schedule C-1	Estimated Costs for Systems Development - New Orleans
Schedule C-1a	Computer Costs - New Orleans
Schedule C-1b	Conversion Costs - Cadra - for Establishing and Writing Procedures
Schedule C-1c	Costs of Preparing Input and Source Documents in Personnel Sections
Schedule C-2	Estimated Costs for Systems Development - MOHR
Schedule C-2a	Man Power Inventory Costs
Schedule C-3	Estimated Costs for Systems Development - GAME

#### Exhibit D    Summary of Annual Operating Costs on a Fully Operative Basis - New Orleans and Dallas Installations

Schedule D-1	Annual Operating Costs New Orleans - MDSC and DPC
Schedule D-1a	Annual Operating Costs MDSC - Personal Service Costs
Schedule D-1b	Annual Operating Costs MDSC - Cost of Equipment
Schedule D-1c	Annual Operating Costs DPC - New Orleans
Schedule D-2	Annual Operating Costs - MOHR and GAME
Schedule D-2a	Annual Operating Costs MOHR - Personnel and Miscellaneous Costs
Schedule D-2b	Annual Operating Costs MOHR - Cost of Equipment

#### Exhibit E    Comparison of Present System and Proposed System and Reduction in Man-Years and Costs for First Three Years



**REPORTED COSTS AND  
COSTS OF FUNCTIONS TRANSFERRED TO ADP SYSTEM  
BY AGENCY**

Agency	Payroll and Payroll Related Costs		Personnel Clerical Costs		Budget Costs		Totals		Total Man-Years	
	Reported On Questionnaire	Costs Not Transferred To ADP System	Reported On Questionnaire	Costs Not Transferred To ADP System	Reported On Questionnaire	Costs Not Transferred To ADP System	Reported On Questionnaire	Costs Not Transferred To ADP System	Reported On Questionnaire	Transferred To ADP System
Agricultural Marketing Service	305,758	305,758	212,180	125,531	86,649	28,107	546,045	125,531	92.09	71.21
Agricultural Research Service	569,666	569,666	338,935	215,260	123,675	43,200	951,801	215,260	172.25	132.72
Agricultural Stabilization and Conservation Service	256,349	256,349	188,923	117,007	71,916	47,417	492,689	117,007	88.64	65.29
Commodity Exchange Authority	4,984	662	4,322	279	-	3,092	8,355	941	1.00	1.00
Farmer Cooperative Service	3,950	3,950	- 1/	-	-	1,168	5,118	-	.70	.70
Farmers Home Administration	142,560	142,560	138,032 2/	85,743	52,289	8,968	289,560	85,743	47.24	31.80
Federal Crop Insurance Corporation	34,985	34,985	13,238	8,073	5,165	3,200	51,423	8,073	9.34	7.45
Federal Extension Service	7,850	7,850	30,787	17,761	13,026	6,400	45,037	17,761	8.95	5.00
Foreign Agricultural Service	33,510	33,510	29,196	16,318	12,878	14,525	77,231	16,318	14.28	11.80
Forest Service	434,833	426,013	322,037	192,065	129,972	13,460	770,330	200,885	130.80	93.21
Office of General Counsel	8,300	8,300	3,464	2,138	1,326	3,000	14,764	2,138	2.20	1.60
Office of Information	9,071	9,071	- 1/	-	-	1,699	10,770	1,699	1.50	1.50
Library	2,771	2,771	2,786	2,076	710	815	6,372	2,076	1.20	.75
Rural Electrification Administration	23,060	23,060	14,800	8,927	5,873	3,195	41,055	8,927	6.26	5.04
Office of the Secretary	14,748	14,748	13,813	7,656	6,157	2,654	31,215	7,656	5.05	3.75
Soil Conservation Service	525,927	524,310	406,568	253,925	132,643	37,110	969,605	255,542	177.60	126.50
Management Operations Staff	9,238	9,238	9,475	5,585	3,890	7,902	26,615	5,585	3.85	3.24
Totals	2,387,560	11,099 3/	1,724,513	1,058,344	666,169	225,912	4,337,985	1,069,443	762.95	562.56
Add: Employer Contributions not reported on Personnel Questionnaires (7 1/4% x \$1,518,611)			110,099	76,605	33,494		110,099	76,605		
			1,834,612	1,134,949	699,663		4,448,084	1,146,348		
								33,494		
								3,302,036		

1/ These agencies did not report any costs on clerical personnel functions.  
2/ Personnel costs reported on the Personnel Questionnaire included from the study.  
3/ Cost of space provided by General Services Administration.  
Source: Questionnaires and reports of other study groups.

**PAYROLL AND PAYROLL RELATED COSTS REPORTED - PRESENT SYSTEM**  
**BY AGENCY AND BY FUNCTION**  
**FISCAL YEAR ENDED 6/30/61**

Agency	Man-Years	Total Payroll Costs		Routine		Payroll		Leave		Retirement		Payroll		Reporting		Other		Supervisory	
		Amount	Percent %	Payroll Operations	% to Total	Funding Operation	% to Total	Operations	% to Total	Amount	% to Total	Amount	% to Total	Amount	% to Total	Amount	% to Total	Amount	% to Total
AMS	52.1	\$ 305,758	100%	\$ 138,138	45.18%	\$ 23,689	7.75%	\$ 26,050	8.52%	\$ 9,966	3.26%	\$ 9,028	2.95%	\$ 51,215	16.75%	\$ 16,370	5.35%	\$ 31,302	10.24%
ARS	100.0	569,666	"	301,423	52.91	25,919	4.55	55,943	9.82	29,616	5.20	9,526	1.67	37,759	6.63	-	-	109,480	19.22
ASCS	42.8	256,349	"	170,510	66.51	7,949	3.10	7,946	3.10	9,250	3.61	6,258	2.44	22,380	8.73	5,090	1.99	26,966	10.52
CEA	.6	4,984	"	1,420	28.49	235	4.71	470	9.43	200	4.01	609	12.22	1,500	30.10	-	-	550	11.04
FCS	.6	3,950	"	1,878	47.54	-	-	626	15.85	-	-	626	15.85	-	-	-	-	820	20.76
FHA	22.6	142,560	"	102,678	72.02	2,280	1.60	9,116	6.39	5,587	3.92	896	.63	6,054	4.25	2,337	1.64	13,612	9.55
FCIC	6.0	34,985	"	13,122	37.51	4,664	13.33	2,915	8.33	2,915	8.33	3,498	10.00	2,332	6.67	-	-	5,539	15.83
FES	1.3	7,850	"	4,070	51.85	577	7.35	577	7.35	577	7.35	577	7.35	577	7.35	-	-	895	11.40
FAS	7.3	33,510	"	8,550	25.51	500	1.50	1,425	4.25	1,425	4.25	475	1.42	2,850	8.50	17,810	53.15	475	1.42
FS	65.3	434,833	"	184,366	42.40	154,467	35.52	18,106	4.16	20,924	4.82	6,049	1.39	28,105	6.46	-	-	22,816	5.25
OGC	1.3	8,300	"	3,240	39.04	540	6.51	540	6.51	700	8.43	1,400	16.87	1,080	13.01	-	-	800	9.63
INF	1.3	9,071	"	6,481	71.46	100	1.10	763	8.41	763	8.41	764	8.42	100	1.10	-	-	100	1.10
LIB	.5	2,771	"	1,544	55.72	-	-	490	17.68	-	-	-	-	-	-	737	26.60	-	-
REA	3.8	23,060	"	9,445	40.96	1,063	4.61	1,688	7.32	3,376	14.64	1,477	6.40	3,765	16.33	940	4.08	1,306	5.66
SEC	2.4	14,748	"	6,355	43.09	685	4.64	2,410	16.34	701	4.75	277	1.88	1,053	7.15	-	-	3,267	22.15
SCS	88.9	525,927	"	242,861	46.18	60,987	11.60	54,083	10.28	22,025	4.18	29,926	5.69	42,097	8.00	5,340	1.02	68,608	13.05
MOS	1.5	9,238	"	3,212	34.77	2,211	23.93	559	6.05	938	10.15	528	5.72	895	9.69	-	-	895	9.69
Total Reported	398.3	\$2,387,560	100%	\$1,199,293	50.23%	\$285,866	11.97%	\$183,707	7.69%	\$108,963	4.56%	\$71,914	3.02%	\$201,762	8.45%	\$48,624	2.04%	\$287,431	12.04%
Deduct: Costs of space provided by GSA																			
Costs of Functions Transferred to ADP System																			

Source: Schedule B of Payroll Questionnaire

Schedule A-2

PERSONNEL SECTION COSTS - PRESENT SYSTEM  
BY AGENCY AND FUNCTION

Agency	Processing Personnel Actions	Maintenance Records and Files	Promotion and Reduction in force Lists or Registers	Regular Reports for Outside		Regular Reports for Internal		Special Reports for Outside		Special Reports for Internal		Totals	
				Agency	Agency Use	Agency	Agency Use	Agency	Agency Use	Agency	Agency Use	Amount	Man-Years
<u>Agricultural Marketing Service</u>													
Costs reported	\$ 101,167	\$83,231	\$ 4,802	\$11,949	\$ 2,586	\$4,123	\$4,322	\$212,180	35.59				
Costs not transferred	69,321	45,694	4,322	1,195	776	2,062	2,161	125,531	20.88				
Costs transferred to new system	\$ 31,846	\$37,537	\$ 480	\$10,754	\$ 1,810	\$2,061	\$2,161	\$ 86,649	14.71				
<u>Agricultural Research Service</u>													
Costs reported	\$210,529	\$73,737	\$24,039	\$10,226	\$11,682	\$3,271	\$5,451	\$338,935	63.35				
Costs not transferred	144,254	40,481	21,635	1,023	3,505	1,636	2,726	215,260	39.53				
Costs transferred to new system	\$ 66,275	\$33,256	\$ 2,404	\$ 9,203	\$ 8,177	\$1,635	\$2,725	\$123,675	23.82				
<u>Agricultural Stabilization and Conservation Service</u>													
Costs reported	\$ 81,310	\$68,463	\$20,739	\$ 9,354	\$ 3,379	\$2,893	\$2,785	\$188,923	37.44				
Costs not transferred	55,968	37,586	18,666	935	1,014	1,446	1,392	117,007	23.35				
Costs transferred to new system	\$ 25,342	\$30,877	\$ 2,073	\$ 8,419	\$ 2,365	\$1,447	\$1,393	\$ 71,916	14.09				
<u>Commodity Exchange Authority</u>													
Costs reported			\$ 100	\$ 167	\$ 12			\$ 279	-				
Costs not transferred			100	167	12			279	-				
Costs transferred to new system			-	-	-			-	-				
<u>Farmers Cooperative Service*</u>													
Costs reported	-	-	-	-	-	-	-	-	-				
Costs not transferred	-	-	-	-	-	-	-	-	-				
Costs transferred to new system	-	-	-	-	-	-	-	-	-				
<u>Farmers Home Administration</u>													
Costs reported	\$ 72,415	\$37,631	\$14,086	\$ 4,980	\$ 4,145	\$2,427	\$2,348	\$138,032	23.64				
Costs not transferred	48,645	20,381	12,677	498	1,154	1,214	1,174	85,743	15.44				
Costs transferred to new system	\$ 23,770	\$17,250	\$ 1,409	\$ 4,482	\$ 2,991	\$1,213	\$1,174	\$ 52,289	8.20				
<u>Federal Crop Insurance Corp.</u>													
Costs reported	\$ 9,388	\$ 2,670	\$ 174	\$ 723	-	\$ 283	-	\$ 13,238	2.94				
Costs not transferred	6,433	1,466	174	-	-	-	-	8,073	1.89				
Costs transferred to new system	\$ 2,955	\$ 1,204	-	\$ 723	-	\$ 283	-	\$ 5,165	1.05				
<u>Federal Extension Service</u>													
Costs reported	\$ 18,719	\$ 8,989	-	\$ 919	\$ 730	\$ 715	\$ 715	\$ 30,787	6.55				
Costs not transferred	12,826	4,935	-	-	-	-	-	17,761	3.95				
Costs transferred to new system	\$ 5,893	\$ 4,054	-	\$ 919	\$ 730	\$ 715	\$ 715	\$ 13,026	2.60				
<u>Foreign Agricultural Service</u>													
Costs reported	\$ 9,752	\$ 7,823	\$ 3,005	\$ 3,217	\$ 1,823	\$1,875	\$1,701	\$ 29,196	4.38				
Costs not transferred	6,683	4,295	3,005	-	547	944	844	16,318	2.48				
Costs transferred to new system	3,069	\$ 3,528	\$ -	\$ 3,217	\$ 1,276	\$ 931	\$ 857	\$ 12,878	1.90				

PERSONNEL SECTION COSTS - PRESENT SYSTEM  
BY AGENCY AND FUNCTION

Agency	Processing Personnel Actions	Maintenance Records and Files	Promotion and Reduction in force Lists or Registers	Regular reports for Outside Agency	Regular Reports for Internal Agency Use	Special Reports for Outside Agency	Special Reports for Internal Agency Use	Totals	
								Amount	Man-Years
Forest Service									
Costs reported	\$142,886	\$ 81,824	\$ 34,033	\$25,583	\$14,034	\$ 7,839	\$15,838	\$ 322,037	62.70
Costs not transferred	97,905	44,922	30,630	2,558	4,210	3,920	7,920	192,065	37.59
Costs transferred to new system	\$ 44,981	\$ 36,902	\$ 3,403	\$23,025	\$ 9,824	\$ 3,919	\$ 7,918	\$ 129,972	25.11
Office of the General Counsel									
Costs reported	1,732	1,732	-	-	-	-	-	3,464	.60
Costs not transferred	1,187	951	-	-	-	-	-	2,138	.60
Costs transferred to new system	545	781	-	-	-	-	-	1,326	-
Office of Information*									
Costs reported	-	-	-	-	-	-	-	-	-
Costs not transferred	-	-	-	-	-	-	-	-	-
Costs transferred to new system	-	-	-	-	-	-	-	-	-
Library									
Costs reported	\$ 929	\$ 928	\$ 464	\$ 465	-	-	-	\$ 2,786	.60
Costs not transferred	637	510	464	465	-	-	-	2,076	.45
Costs transferred to new system	\$ 292	418	-	-	-	-	-	710	.15
Rural Electrification Adm.									
Costs reported	\$ 8,023	\$ 5,582	-	\$ 831	\$ 90	\$ 183	\$ 91	\$ 14,800	2.00
Costs not transferred	5,498	3,065	-	-	90	183	91	8,927	1.22
Costs transferred to new system	\$ 2,525	\$ 2,517	-	\$ 831	-	-	-	\$ 5,873	.78
Office of the Secretary									
Costs reported	\$ 7,178	\$ 907	\$ 1,432	\$ 2,683	-	\$ 1,613	-	\$ 13,813	2.25
Costs not transferred	4,919	498	1,432	-	-	807	-	7,656	1.30
Costs transferred to new system	\$ 2,259	409	-	\$ 2,683	-	\$ 806	-	\$ 6,157	.95
Soil Conservation Service									
Costs reported	\$215,542	\$ 89,475	\$ 48,506	\$25,991	\$13,334	\$ 6,748	\$ 6,972	\$ 406,568	83.20
Costs not transferred	147,689	49,122	43,655	2,599	4,000	3,374	3,486	253,925	51.10
Costs transferred to new system	\$ 67,853	\$ 40,353	\$ 4,851	\$23,392	\$ 9,334	\$ 3,374	\$ 3,486	\$ 152,643	32.10
Management Operations Staff									
Costs reported	\$ 4,842	\$ 2,944	\$ 289	\$ 655	\$ 232	\$ 273	\$ 240	\$ 9,475	1.01
Costs not transferred	3,318	1,616	260	65	70	128	128	5,585	.61
Costs transferred to new system	\$ 1,524	\$ 1,328	\$ 29	\$ 590	\$ 162	\$ 145	\$ 112	\$ 3,890	.40
Totals									
Costs reported	\$884,412	\$465,936	\$151,669	\$97,743	\$52,047	\$32,243	\$40,463	\$1,724,513	326.25
Costs not transferred	605,283	255,522	137,020	9,505	15,378	15,714	19,922	1,058,344	200.39
Costs transferred to new system	\$279,129	\$210,414	\$ 14,649	\$88,238	\$36,669	\$16,529	\$20,541	\$ 666,169	125.86

\*No Costs Reported



**BUDGET SECTION COSTS REPORTED - PRESENT SYSTEM**  
**BY AGENCY AND FUNCTION**  
**FISCAL YEAR ENDED 6/30/61**

Schedule A-3

Agency	Program Unit	Payroll Fiscal Unit	Personnel Unit	Budget Unit	Reported and Transferred to the ADP System 1/	
					Totals Amount	Man-Years (in tenths)
Agricultural Marketing Service	\$ 8,980	\$13,864	\$ 90	\$ 5,173	\$ 28,107	4.4
Agricultural Research Service	-	2,100	-	41,100	43,200	8.9
Agricultural Stabilization and Conservation Service	34,042	9,859	-	3,516	47,417	8.4
Commodity Exchange Authority	-	735	-	2,357	3,092	.4
Farmer Cooperative Service	-	79	-	1,089	1,168	.1
Farmers Home Administration	-	931	780	7,257	8,968	1.
Federal Crop Insurance Corporation	800	2,000	-	400	3,200	.4
Federal Extension Service	-	-	-	6,400	6,400	1.1
Foreign Agricultural Service	-	-	1,625	12,900	14,525	2.6
Forest Service	4,410	3,780	500	4,770	13,460	2.8
Office of General Counsel	1,000	1,000	-	1,000	3,000	.3
Office of Information	-	582	-	1,117	1,699	.2
Library	-	-	-	815	815	.1
Rural Electrification Administration	640	1,750	-	805	3,195	.46
Office of the Secretary (Plant and Operations)	-	-	-	2,654	2,654	.4
Soil Conservation Service	17,955	17,955	-	1,200	37,110	5.5
Management Operations Staff (Agr. Econ.)	3,190	3,518	194	1,000	7,902	1.34
Totals	\$71,017	58,153	3,189	93,553	225,912 <sup>1/</sup>	38.4

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1/ All expenditures reported were for personal services and all were for functions transferable to the ADP system.

MAN-YEARS REPORTED AND TRANSFERRED  
TO ADP SYSTEM - PAYROLL, PERSONNEL, & BUDGET  
BY AGENCY

Schedule A-4

	Payroll			Personnel			Budget			Total			Full-Time Employees Transferred to ADP System		
	Man-Years Reported	Man-Years Trf. to ADP	Man-Years Trf. to ADP	Man-Years Reported	Man-Years Trf. to ADP	Man-Years Trf. to ADP	Man-Years Reported	Man-Years Trf. to ADP	Man-Years Trf. to ADP	Man-Years Reported	Man-Years Trf. to ADP	Man-Years Trf. to ADP	Payroll	Personnel	Total
Agricultural Marketing Service	52.10	52.10	14.71	35.59	4.4	4.4	4.4	4.4	4.4	92.09	71.21	71.21	49	10	59
Agricultural Research Service	100.00	100.00	23.82	63.35	8.9	8.9	8.9	8.9	8.9	172.25	132.72	132.72	89	14	106
Agricultural Stabilization and Conservation Service	42.80	42.80	14.09	37.44	8.4	8.4	8.4	8.4	8.4	88.64	65.29	65.29	42	10	52
Commodity Exchange Authority	.60	.60	-	-	.40	.40	.40	.40	.40	1.00	1.0	1.0	-	-	-
Farmer Cooperative Service	.60	.60	-	-	.10	.10	.10	.10	.10	.70	.7	.7	-	-	-
Farmers Home Administration	22.60	22.60	8.20	23.64	1.0	1.0	1.0	1.0	1.0	47.24	31.80	31.80	18	1	20
Federal Crop Insurance Corporation	6.00	6.00	1.05	2.94	.40	.40	.40	.40	.40	9.34	7.45	7.45	2	1	3
Federal Extension Service	1.30	1.30	2.60	6.55	1.1	1.1	1.1	1.1	1.1	8.95	5.0	5.0	1	2	3
Foreign Agricultural Service	7.30	7.30	1.90	4.38	2.6	2.6	2.6	2.6	2.6	14.28	11.80	11.80	7	1	8
Forest Service	65.30	65.30	25.11	62.70	2.8	2.8	2.8	2.8	2.8	130.80	93.21	93.21	6	8	14
Office of General Counsel	1.30	1.30	-	.60	.30	.30	.30	.30	.30	2.20	1.60	1.60	1	-	1
Office of Information	1.30	1.30	-	-	.20	.20	.20	.20	.20	1.50	1.5	1.5	1	-	1
Library	.50	.50	.15	.60	.10	.10	.10	.10	.10	1.20	.75	.75	-	-	-
Rural Electrification Administration	3.80	3.80	.78	2.00	.46	.46	.46	.46	.46	6.26	5.04	5.04	3	-	3
Office of the Secretary	2.40	2.40	.95 *	2.25	.40	.40	.40	.40	.40	5.05	3.75	3.75	-	-	-
Soil Conservation Service	88.90	88.90	32.10	83.20	5.5	5.5	5.5	5.5	5.5	177.60	126.50	126.50	48	1	49
Management Operations Staff	1.50	1.50	.40	1.01	1.34	1.34	1.34	1.34	1.34	3.85	3.24	3.24	1	-	1
Totals	398.30	398.30	125.86	326.25	38.4	38.4	38.4	38.4	38.4	762.95	562.56	562.56	268	48	320

\*Plant and Operations

REPORTED COSTS BY OBJECTS OF EXPENDITURES  
FOR PAYROLL, PERSONNEL AND BUDGET

	Personal Services	Equipment	Space	Other	Total	Type of Equipment		Average Annual Number of Persons Payrolled	Annual Cost Per Person	
						Manual	Automatic			
Payroll and Payroll Related Costs	\$2,108,228	\$124,900	\$ 96,891	\$ 57,541	\$2,387,560	\$1,896,398	\$491,162	96,783	\$24.67	(Schedule B-1)
Personnel Costs - Clerical	1,628,710	42,221	95,242	68,439	1,834,612			"	18.96	(Schedule B-2)
Budget Costs	225,912				225,912			"	2.33	(See Note)
Total Reported Costs	\$3,962,850	\$167,121	\$192,133	\$125,980	\$4,448,084			"	\$45.96	
Payroll - Manual operation						\$1,896,398		67,000	28.30	
" - Automatic operation							\$491,162	29,783	\$16.49	

Note: All reported costs for budget functions were personal services;  
the details by agencies is the same as Schedule A-3.  
225,912 ÷ 96,783 = \$2.33.

**PAYROLL AND PAYROLL RELATED COSTS REPORTED  
BY OBJECTS OF EXPENDITURES**

**Schedule B-1**

Agency	Personal Services	Equipment	Space	Other		Total	Type of Equipment		Average Annual Number of Persons Payrolled	Annual Cost per Person
							Manual	Automatic		
Agricultural Marketing Service	\$ 287,185	\$ 1,291	\$ 7,949	\$ 9,333		305,758	305,758		9,671	31.61
Agricultural Research Service	528,635	4,054	29,840	7,137		569,666	569,666		17,339	32.85
Agricultural Stabilization and Conservation Service	247,215	4,716	2,492	1,926		256,349	256,349		7,878	32.54
Commodity Exchange Authority	4,177	120	662	25		4,984	4,984		120	41.53
Farmer Cooperative Service	3,910	20	-	20		3,950	3,950		109	36.24
Farmers Home Administration	116,887	13,646	9,193	2,834		142,560		142,560	$\frac{1}{4,934}$	$\frac{1}{29.14}$
Federal Crop Insurance Corporation	32,145	388	1,644	808		34,985	34,985		1,084	32.27
Federal Extension Service	7,803	7	-	40		7,850	7,850		242	32.44
Foreign Agricultural Service	33,410	-	-	100		33,510	33,510		1,398	23.97
Forest Service	84,181	14,770	8,820	1,520		109,291	109,291		7,917	13.80
"	229,043	71,938	10,136	14,425		325,542		325,542	23,880	13.63
"	313,224	86,708	18,956	15,945		434,833			31,797	13.68
Office of the General Counsel	6,000	2,000	-	300		8,300	8,300		398	20.85
Office of Information	8,846	25	-	200		9,071	9,071		248	36.58
Library	2,751	-	-	20		2,771	2,771		156	17.76
Rural Electrification Administration	21,245	1,500	-	315		23,060		23,060	969	23.80
Office of the Secretary	14,395	203	-	150		14,748	14,748		470	31.38
Soil Conservation Service	471,202	10,222	26,155	18,348		525,927	525,927		17,115	30.73
Management Operations (SRS-ERS)	9,198	-	-	40		9,238	9,238		2,855	$\frac{2}{32.35}$
Totals	2,108,228	124,900	96,891	57,541		2,387,560			$\frac{96,783}{67,000}$	24.67
" Manual							1,896,398			28.30
" Automatic								491,162	29,783	16.49
						2,387,560	1,896,398	491,162	96,783	

1/ Includes 5356 Committeemen converted on 1 to 12 ratio.

2/ Projected from 3 pay periods.



PERSONNEL SECTION CLERICAL COSTS REPORTED  
BY OBJECTS OF EXPENDITURES  
FISCAL YEAR ENDED 6/30/61

Schedule B-2

	Personal Services		Equipment	Other Costs		Mis.	Total Costs
	Man-Years	Costs		Space	Supplies		
Agricultural Marketing Service	35.59	\$ 186,953	\$ 1,577	\$17,490	\$ 3,990	\$ 2,170	\$ 212,180
Agricultural Research Service	63.35	74,477	4,644	28,889	5,341	25,584	338,935
Agricultural Stabilization and Conservation Service	37.44	170,743	5,026	8,784	4,201	169	188,923
Commodity Exchange Authority	-	-	100	167	12		279
Farmer Cooperative Service	-	-	-	-	-	-	-
Farmers Home Administration	23.64	129,688	1,334	4,793	1,712	505	138,032
Federal Crop Insurance Corporation	2.94	10,610	1,259	1,369	-	-	13,238
Federal Extension Service	6.55	30,787	-	-	-	-	30,787
Foreign Agricultural Service	4.38	22,775	4,657	1,577	187	-	29,196
Forest Service	62.70	281,548	8,378	18,296	8,725	5,090	322,037
Office of the General Counsel	.60	3,464	-	-	-	-	3,464
Office of Information	-	-	-	-	-	-	-
Library	.60	2,770	-	-	11	5	2,786
Rural Electrification Administration	2	10,548	4,252	-	-	-	14,800
Office of the Secretary	2.25	13,463	50	-	300	-	13,813
Soil Conservation Service	83.20	375,775	7,049	13,877	5,887	3,980	406,568
Management Operations Staff-Agri. Econ.	1.01	5,010	3,895	-	250	320	9,475
Total	326.25	\$1,518,611	\$42,221	\$95,242	\$30,616	\$37,823	\$1,724,513

Add: Employer Contributions not  
reported (7 1/4% of 1,518,611)

110,099  
1,628,710  
\$ 18.96

Annual Cost Per Person 1,834,612 ÷ 96.783

SUMMARY OF CONVERSION AND DEVELOPMENT COSTS  
NEW ORLEANS AND DALLAS INSTALLATIONS

<u>Items</u>	<u>Personnel Costs</u>	<u>Equipment Costs</u>	<u>Travel and Misc.</u>	<u>Total Costs</u>	
A. Development Costs - MDSC & DPC New Orleans - (Schedule C-1)	374,712	20,052	18,222	412,986	To be incurred 1 year after "decision".
B. Development Costs - MOHR - (Schedule C-2)	431,251	12,850	17,546	461,647	To be incurred by 2 years after de- cision.
C. Development Costs - GAME (Schedule C-3)	72,662	9,445	4,450	86,557	*Same as B above.
Totals Development Costs	<u>878,625</u>	<u>42,347</u>	<u>40,218</u>	<u>961,190</u>	

ESTIMATED COSTS FOR SYSTEMS DEVELOPMENT  
NEW ORLEANS

Schedule C-1

<u>Items</u>	<u>Personnel Costs</u>	<u>Equipment Costs</u>	<u>Travel and Misc.</u>	<u>Total Costs</u>
A. Computer Costs - (Schedule C-1a)	176,938	20,052	11,220	208,210
B. CADRE (Schedule C-1b)				
1. Director's Office - 1-year	74,805			
2. Division Chiefs - 6-months	12,173			
3. Asst. Division Chiefs - 3- "	5,119			
	<u>92,097</u>			
4. Gov't. Contr.-Fringe Benefits - 7 1/4%				98,774
5. Total Personnel Costs	98,774			98,774
6. Travel & Misc.			7,002	7,002
C. Preparing Input Data and Source Documents (Schedule C-1c)	99,000			99,000
*Total Development Costs - New Orleans - MDSC & DPC	374,712	20,052	18,222	412,986

\*These costs are estimated to be incurred during first year after decision to change to ADP System.

COMPUTER COSTS  
NEW ORLEANS

Exhibit C-1a  
Cost

Schedule C-1a

Items of Expense	
1. Establishment of System	
A. Problem Formulation and Definition	
B. Programming and Testing	
705	
76 hrs. @ \$53.19	
76 " " 13.60	
3.8 " " 9.50 (5% for unscheduled maintenance)	
1401	
122 hrs. @ \$7.66	
122 " " 4.99	
6.1 " " 4.75 (5% for unscheduled maintenance)	
Total Machine Costs	
Sub-total	
2. Conversion to System	
A. Total Conversion	
EAM Costs	
705	
40 hrs. @ \$53.19	
40 " " 13.60	
2 " " 9.50 (5% for unscheduled maintenance)	
1401	
94.5 hrs. @ \$7.66	
94.5 " " 4.99	
4.7 " " 4.75 (5% for unscheduled maintenance)	
Total Machine Costs	
Subtotal	
Total Development Costs	

Personnel	Equipment Costs	Travel and Supplies	Total Costs
47,810		9,220	57,030
44,675			44,675
	4,042		
	1,034		
	36		
	935		
	609		
	29		
	6,685		6,685
44,675	6,685		51,360
			108,390
84,453		2,000	86,453
	9,458		
	2,128		
	544		
	19		
	724		
	472		
	22		
	13,367		13,367
84,453	13,367	2,000	99,820
176,938	20,052	11,220	208,210



CONVERSION COSTS - CADRE  
Personnel and Travel for Establishing and Writing Procedures  
(Estimated to be completed in one year)

Schedule C-1b

<u>Organizational Unit</u>	<u>Number of Positions</u>	<u>Grade</u>	<u>Base Salary</u>	<u>Annual Cost</u>	<u>First Year Costs</u>
<u>Office of the Director</u>					
Assistant Director	1	GS-13	\$ 10,635	\$ 10,635	
Secretary	1	5	4,345	4,345	
System Analyst	1	13	10,635	10,635	
System Analyst	1	12	8,955	8,955	
System Analyst	2	11	7,560	15,120	
Administrative Officer	1	12	8,955	8,955	
Stenographers	4	4	4,040	16,160	
				<u>74,805</u>	74,805
<u>Accounting Division</u>					
Chief	1	GS-12	8,955	8,955 1/2	4,478
Assistant Chief	1	11	7,560	7,560 1/4	1,890
<u>Control Division</u>					
Chief	1	GS-9	6,435	6,435 1/2	3,217
Assistant Chief	1	7	5,355	5,355 1/4	1,339
<u>Processing Division</u>					
Chief	1	GS-12	8,955	8,955 1/2	4,478
Assistant Chief	1	11	7,560	7,560 1/4	1,890
	<u>17</u>			<u>\$ 119,625</u>	
Total					\$ 92,097
Fringe Benefits - 7-1/4%					<u>6,677</u>
					<u>\$ 98,774</u>
<u>Travel</u>					
Transportation between New Orleans and Washington					
6 Persons, 3 trips each @ \$150				\$ 2,700	
Per Deim					
42 days times 6 persons @ \$16./day				4,032	
Miscellaneous					
18 trips @ \$15. per trip				<u>270</u>	
Total Travel Costs				\$ 7,002	<u>7,002</u>
Total Salaries and Travel Costs - First Year					<u>\$ 105,776</u>

COSTS OF PREPARING INPUT AND SOURCE DOCUMENTS  
IN PERSONNEL SECTIONS  
(Conversion Costs)

Schedule C-1c

	<u>Man Hours</u>	<u>Rate per hour</u> <u>GS-4 Clerk</u>	<u>Amount</u>
Developing and reproducing source document			\$ 9,000
Preparation of input documents			<u>90,000</u>
			<u>\$99,000</u>

Source: Personnel Study Group, Memo to Chairman, ADP Study Group Addendum to Report.

## ESTIMATED COSTS FOR SYSTEMS DEVELOPMENT

## MOHR - DALLAS

## Schedule C-2

Items	Personnel Costs	Rental of Equipment	Travel and Misc.	Total Costs
<b>A. Establishment of System</b>				
1. Research and Problem Definition - (96 man-months)	58,000			58,000
2. Programming (36 man-months)	19,500			19,500
3. Typing (6 man-months)	1,900			1,900
4. EAM Operators (1 man-month)	350			350
5. Feasibility (15 man-months)	8,750			8,750
6. Government & Contributions for Fringe Benefits - 7 1/4% of \$88,500	6,417			6,417
Sub-total	94,917			94,917
<b>B. Testing</b>				
1. EDP:				
7070 (140 hrs. @ \$85./hr.)		11,900		11,900
1401 (10 hrs. @ \$35./hr.)		350		350
2. EAM (171.4 hrs. @ \$3.50/hr.)		600		600
Sub-total		12,850		12,850
<b>C. Other</b>				
1. Travel (8 trips @ \$170.)			1,360	1,360
2. Per Diem (210 days @ \$15.)			3,150	3,150
3. Miscellaneous Costs			120	120
4. Telephone (52 calls of 20 min. @ .40/min.)			416	416
Sub-total			5,046	5,046
<b>D. Establishment of Special Man-Power Resources</b>				
1. Preparation of Source Documents for Man-Power Inventory	238,200			238,200
TOTALS	333,117	12,850	5,046	351,013
<b>E. Development Research - Testing Staff (Sch. C-2a)</b>				
1. Staffing (\$49,067 time 2-years)	98,134			98,134
2. Misc. Operating Costs (\$6,250. time 2-years)			12,500	12,500
*Total Development Costs - MOHR	431,251	12,850	17,546	461,647

\*These Costs are estimated to be incurred during first two year period following decision to change to ADP system.

DEVELOPMENT RESEARCH - TESTING STAFF

Schedule C-2a

	<u>Personnel</u>	<u>Operating Costs</u>	<u>Total Costs</u>
<u>A. STAFFING</u>			
1. Research Psychologist (1 GS-15)	\$ 13,730		
2. Research Psychologist (1 GS-14)	12,210		
3. Psychologist (Evaluations and Appraisals) (1 GS-13)	10,635		
4. Secretary (1 GS-6)	4,830		
5. Secretary (1 GS-5)	4,345		
6. Government Contribution for Fringe Benefits (7-1/4% of \$45,750)	<u>3,317</u>		
	\$ 49,067		
<u>B. ANNUAL OPERATING COSTS</u>			
Communications (5 telephones @ \$180 per year)		\$ 900	
Postage (17,000 @ \$.05 plus return)		1,700	
Printing		1,000	
Travel		2,500	
Supplies (\$30 per employee)		<u>150</u>	
		\$ 6,250	
TOTAL	<u>\$ 49,067</u>	<u>\$ 6,250</u>	<u>\$ 55,317</u>
Development Costs for 2 Years	<u>\$ 98,134</u>	<u>\$12,500</u>	<u>\$110,634</u>



ESTIMATED COSTS FOR SYSTEMS DEVELOPMENT  
GAME

Schedule C-3

Item of Expense

Personnel Costs

Rental of Equipment

Travel and Misc.

Total Costs

A. Establishment of System

1. Research and Problem Definition (72 Man-Months)	43,500			43,500
2. Programming (24 Man-Months)	15,600			15,600
3. Typing (4 Man-Months)	1,300			1,300
4. E.A.M. Machine Operators (1 Man-Month)	350			350
5. Cost Studies (12 Man-Months)	7,000			7,000
6. Govt. Contribution For Fringe Benefits (@ 7 1/4% of Personnel Costs \$67,750)	4,912			4,912
				<u>72,662</u>

Sub-Total

B. Testing

1. EDP				
a. 7070 (100 hrs. @ \$85/hr.)		8,500		8,500
b. 1401 ( 10 hrs. @ \$35/hr.)		350		350
2. EAM (170 hrs. \$3.50/hr.)		595		595
				<u>9,445</u>

Sub-Total

C. Other

1. Transportation (6 Trips @ \$170)			1,020	1,020
2. Per Diem (200 Days @ \$15)			3,000	3,000
3. Miscellaneous Costs			30	30
4. Telephone (50 Calls @ \$8)			400	400
				<u>4,450</u>

Sub-Total

\*Total Development Costs

72,662	9,445	4,450	86,557
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SUMMARY OF ANNUAL OPERATING COSTS  
ON A FULLY OPERATIVE BASIS  
NEW ORLEANS AND DALLAS INSTALLATIONS

<u>Items</u>	<u>Total Costs</u> <u>First Year</u> <u>Operations</u>	<u>Total Costs</u> <u>Second Year</u> <u>Operations</u>
A. MDSC		
1. Personnel Costs	\$ 984,182	\$1,157,292
2. Miscellaneous Operating Costs	118,990	125,640
3. Equipment Costs (annual amortization)	7,933	7,933
Total MDSC	<u>\$1,111,105</u>	<u>\$1,290,865</u>
B. Computer Costs - New Orleans		
1. Personnel and Equipment	\$ 341,017	\$ 454,691
2. Punch Cards	9,000	9,000
3. Magnetic Tape	3,200	3,200
Total DPC	<u>\$ 353,217</u>	<u>\$ 466,891</u>
Total Cost, New Orleans System (Schedule D--1)	<u>\$1,464,322</u>	<u>\$1,757,756</u>
C. MOHR (Schedule D-2)		
1. Personnel Costs		\$ 19,906
2. Equipment Costs (annual amortization)		174
3. Miscellaneous Operating Costs		4,020
4. Computer Costs		21,866
Total Annual Costs - MOHR		<u>\$ 45,966</u>
D. GAME (Schedule D-2)		
1. Personnel Costs		\$ 8,944
2. Computer Costs		6,486
3. Miscellaneous Operating Costs		1,215
Total Annual Operating Costs - GAME		<u>\$ 16,645</u>
Total Annual Operating Costs (See notes)		<u>\$1,820,367</u>

NOTE 1 - Costs for first year's operations takes into consideration the phasing-in of operation to ADP; 10,000 during first 6 weeks of year and 10,000 each succeeding 2 weeks until approximate total of 100,000 employees are on ADP system.

\* - First year operation begins 1 year after decision to change to ADP system.

NOTE 2 - The operating costs for the third year's operations and each year thereafter are estimated to be the same as the second year of operation.

ANNUAL OPERATING COSTS  
NEW ORLEANS  
MDSC & DPC

Schedule D-1

<u>Items</u>	<u>Personnel Costs</u>	<u>Equipment Costs</u>	<u>Misc. Operating Costs</u>	<u>Annual Costs</u>
<u>A. Staffing (Schedule D-1a)</u>				
1. Office of the Director (13 employees)	\$	\$	\$	\$
2. Accounting Division (32 " )				
3. Control Division (31 " )				
4. Processing Division (165 " )				
Subtotal	\$1,079,060			
5. Gov't. Contributions for Fringe Benefits, 7-1/4%	78,232			
Total Personnel Costs - MDSC	1,157,292			\$1,157,292
<u>B. Cost of Equipment - MDSC</u>				
Total Costs 79330 (Schedule D-1b)				
Amortization Costs, Per Year		7,933		7,933
<u>C. Miscellaneous Operating Costs</u>				
1. Space - 20,000 sq. ft. @ \$4.00			80,000	
2. Supplies (\$30. per person - 241 X 30)			7,230	
3. Communications				
28 Telephones @ \$180./yr. \$5,040				
Teletype 1,650			6,690	
4. Printing			2,400	
5. Postage (532,000 pieces of mail @ .05)			26,600	
6. Travel			2,000	
7. Maintenance and Repairs - \$5/yr./machine			720	
Subtotal			125,640	
Total Annual Operating Costs - MDSC	\$1,157,292	\$ 7,933	\$125,640	\$1,290,865
<u>D. Computer Costs - DPC (Schedule D-1c)</u>				
	335,496	119,195	12,200	466,891
Total Annual Operating Costs MDSC & DPC	<u>\$1,492,788</u>	<u>\$127,128</u>	<u>\$137,840</u>	<u>\$1,757,756</u>

ANNUAL OPERATING COSTSMDSCPersonal Services CostsSchedule D-1a

<u>Organizational Unit</u>	<u>Number of Positions</u>	<u>Grade</u>	<u>Base Salaries</u>	<u>Amount</u>
<u>Office of the Director</u>				
Director	1	GS-14	\$ 12,210	\$ 12,210
Assistant Director	1	13	10,635	10,635
Secretary	1	5	4,345	4,345
<u>Automatic Data Processing Staff</u>				
Systems Analyst	1	GS-13	10,635	10,635
Systems Analyst	1	12	8,955	8,955
Systems Analyst	2	11	7,560	15,120
Systems Analyst	1	9	6,435	6,435
Stenographer	3	4	4,040	12,120
<u>Administrative Services Staff</u>				
Administrative Officer	1	12	8,955	8,955
Stenographer	1	4	4,040	4,040
Total	<u>13</u>			\$ <u>93,450</u>
<u>Accounting Division</u>				
Chief	1	GS-12	\$ 8,955	\$ 8,955
Assistant Chief	1	11	7,560	7,560
Secretary	1	4	4,040	4,040
Supervisors	3	9	6,435	19,305
Accounting Technicians	10	7	5,355	53,550
Accounting Clerks	13	5	4,345	56,485
Stenographer	3	4	4,040	12,120
Total	<u>32</u>			\$ <u>162,015</u>
<u>Control Division</u>				
Chief	1	GS-9	\$ 6,435	\$ 6,435
Assistant Chief	1	7	5,355	5,355
Supervisors	2	5	4,345	8,690
Clerks	8	4	4,040	32,320
Clerks	17	3	3,760	63,920
Messengers	2	2	3,500	7,000
Total	<u>31</u>			\$ <u>123,720</u>
<u>Processing Division</u>				
Chief	1	GS-12	\$ 8,955	\$ 8,955
Assistant Chief	1	11	7,560	7,560
Secretary	1	4	4,040	4,040
Supervisors	6	9	6,435	38,610
Supervisors	6	7	5,355	32,130
Clerks	36	5	4,345	156,420
Clerks	84	4	4,040	339,360
Clerks	30	3	3,760	112,800
Total	<u>165</u>			<u>699,875</u>
Employer Contributions (7-1/4% of \$1,079,060)				<u>78,232</u>
SUMMARY TOTALS	241			<u>\$1,157,292</u>



ANNUAL OPERATING COSTS  
COST OF EQUIPMENT - MDSC

Schedule D-1b

Items	Number	Unit Cost	Total Costs	Equipment for First Year - Cadre		
				Number	Unit Cost	Total Costs
Typewriters, Electric	15	427	6,405	5	427	2,135
" Standard	9	211	1,899			
Desks & Chairs, Typist	24	88	2,112	5	88	440
File Cabinets - 5-drawer	120	53	6,360	10	53	530
Punch Card Cabinets	24	175	4,200			
Supply Cabinets	5	40	200	2	40	80
Tables - 60 x 34	48	32	1,536	6	32	192
Desks & Chairs - Clerical	217	90	19,530	12	90	1,080
Adding Machines	120	253	30,360	6	253	1,518
Costumers	24	12	288	5	12	60
Bookcases	8	55	440	4	55	220
Miscellaneous (\$25/employee for equipment such as staplers, pencil-sharpeners, etc.)		25	6,000	(17 employees)	25	425
Total			79,330			6,680

Total First Year Equip. Costs  
Balance To Be Purchased At  
Beginning Of Second Year.

6,680  
72,650

Total Equipment Costs - MDSC.

10-Year Amortization @ \$7,933./Year

79,330

1/ "Cadre" refers to the group in MDSC who will establish and write the procedures in MDSC. The equipment is part of the MDSC equipment bought in the first year.

ANNUAL OPERATING COSTS  
NEW ORLEANS - DPC

Schedule D-1c

<u>Items</u>	<u>Personnel Costs</u>	<u>Equipment Costs</u>	<u>Travel &amp; Misc.</u>	<u>Total Costs</u>
A. Maintenance Personnel - Programming & Testing System. 3-man years	22,200			22,200
B. Card Preparation & EAM Costs	313,296	46,777		360,073
C. 705: 817.1 hrs. @ \$53.19/hr. 817.1 " @ 13.60/hr. 40.9 " @ 9.50/hr. (5% Unscheduled Maintenance)	43,462 11,113 389 —	54,964		54,964
1401: 1354.3 hrs. @ \$7.66/hr. 1354.3 " @ 4.99/hr. 67.7 " @ 4.75/hr. (5% Unscheduled Maintenance)	10,374 6,758 322 —	17,454	9,000	17,454
D. Punch Cards			9,000	9,000
E. Magnetic tape - 500 reels \$16,000.00 5 Year Supply - Annual Cost			3,200	3,200
Total Annual Operating Costs - DPC	335,496	119,195	12,200	466,891

Exhibit D-1c  
Cost

ANNUAL OPERATING COSTS  
MOHR & GAME

Schedule D-2

	Items	Personnel Costs	Equipment Costs	Misc. Operating Costs	Total Costs
A. MOHR					
1.	Research Testing Staff 1 GS-15	13,730			
	1 GS-6	4,830			
	Subtotal	18,560			
	Gov't. Contr.-Fringe Benefits - 7 1/4%	1,346			
	Total (Schedule D-2a)	19,906			19,906
2.	Equipment Costs - (Sch. D2-b)				
	Total Cost	1,737			
	Amortization Costs - 10 yrs.		174		174
3.	Miscellaneous Operating Costs (Sch. D-2a)			4,020	4,020
4.	Computer Costs				
	7070: 34,000 Cards @ .0238 x 26		21,034		
	1401: 34,000 " @ .94/M x 26		832		
	Total Computer Costs		21,866		21,866
	Total Annual Oper. Costs - MOHR	19,906	22,040	4,020	45,966
B. GAME					
1.	Man-Power 2 GS-11 (1/2 times)	8,340			
2.	Gov't. Contr.-Fringe Benefits, 7 1/4%	604			
		8,944			8,944
3.	E.D.P.				
	7070 - 5 hrs. Monthly 60 hrs. @ \$85/hr.		5,100		5,100
	1401 - 3.3 hrs. Monthly 39.6 hrs. @ \$35/hr.		1,386		1,386
4.	Transportation 4 trips @ \$170.			680	680
5.	Per Diem - 20 days @ \$15.			300	300
6.	Miscellaneous Costs			35	35
7.	Telephone - 25 calls @ \$8.			200	200
	Total Annual Operating Costs - GAME	8,944	6,486	1,215	16,645

ANNUAL OPERATING COSTS - MOHR

Personnel and Miscellaneous Costs

	<u>Personnel Costs</u>	<u>Miscellaneous</u>	<u>Total Costs</u>
A. <u>Staffing -</u>			
1. Research Tester - 1 GS-115	\$ 13,730		
2. Secretary - 1 GS-6	4,830		
3. Govt. Contr. for Fringe Benefits - 7-1/4% of \$18,560	<u>1,346</u>		
Total Personnel Costs	\$ 19,906		\$19,906
B. <u>Miscellaneous Costs</u>			
1. Communications - 2 tel. @ \$180/yr.		\$ 360	
2. Postage (17,000 @ .05 plus return)		1,700	
3. Printing		1,000	
4. Travel		900	
5. Supplies (\$30. per employee)		<u>60</u>	
Total Miscellaneous Costs		\$ 4,020	\$ 4,020
Total Costs	<u>\$ 19,906</u>	<u>\$ 4,020</u>	<u>\$ 23,926</u>



COST OF EQUIPMENT - MOHRSchedule D-2b

<u>Items</u>	<u>Number</u>	<u>Unit Price</u>	<u>Total Cost</u>
Desks & Chairs, Typist	2	\$ 88	\$ 176
Typewriters, Electric	2	427	854
File Cabinets 5-Drawer	2	53	106
Supply Cabinets	1	40	40
Tables 60 x 34	1	32	32
Desks & Chairs, Executive	3	90	270
Costumers	2	12	24
Bookcases	2	55	110
Miscellaneous (\$25/employee)			<u>125</u>
Total			\$ 1,737

COMPARISON OF PRESENT SYSTEM AND PROPOSED SYSTEM  
AND REDUCTION IN MAN-YEARS AND COSTS FOR  
FIRST THREE YEARS AFTER DECISION TO CHANGE TO  
PROPOSED SYSTEM

	Present System		Proposed System		Reduction in Cost		Reduction in Cost and Conversion and Development		
	Man-Years	Cost	Man-Years	Cost	Man-Years	Cost	1st Year after Decision	2nd Year	3rd Year
Annual operating costs on a fully implemented basis	562.56	3,302,036	321.39	1,820,367	241.17	1,481,669	- - -	1,012,205	1,481,669
Conversion and Development Costs							(687,088)	(274,102)	- - -
Cost reduction by years							<u>(687,088)</u>	738,103	<u>1,481,669</u>
Cumulative effect:									
Net reduction after 2nd year -								<u>(687,088)</u>	<u>51,015</u>

Out of Pocket Costs

The annual operating costs of the proposed system of \$1,820,367 represent out of pocket costs. With the exception of the annual amortization of the New Orleans Computer Costs, which amounts to \$35,987 per year. On this basis conversion and development costs would be recovered about the end of the 11th month of the second year.

Comparison of Number of Full-time Employees relating to  
functions to be transferred to Proposed System

	<u>Present System</u>	<u>Proposed System</u>	<u>Reduction</u>
Full time employees	320	243	77



